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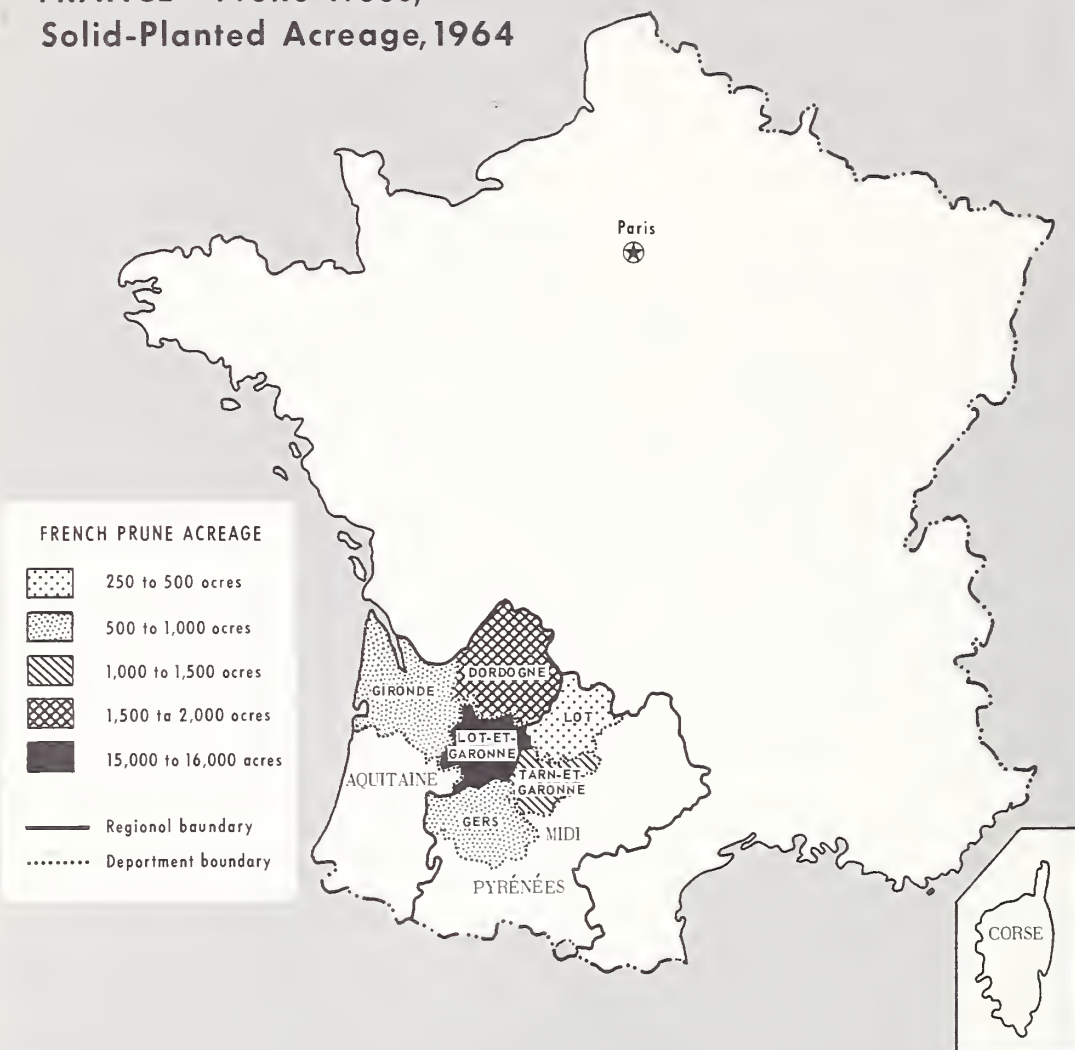
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FRANCE: Prune Trees, Solid-Planted Acreage, 1964

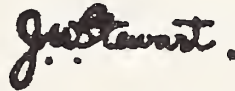


FOREWORD

U.S. prune producers and handlers are interested in the dynamic developments taking place in France's dried prune industry. France, major export outlet for California prunes, is being transformed into France, self-sufficient in prune requirements, and possibly into France, major competitor in foreign markets.

This report investigates the current and prospective production and marketing of France's prunes.

The author is indebted to French agricultural officials, fruit growers, and processors for their helpfulness. He is particularly indebted to J. Thoumazeau of the Direction des Services Agricoles (Agricultural Extension Service) and J. LeBot, Director of the Chambre Syndicale Nationale de la Prune d'Ente (National Syndicate of the Dried Prune Industry).

A handwritten signature in dark ink, reading "J. W. Stewart." with a period at the end. The script is cursive and fluid.

J. W. Stewart, Director
Fruit and Vegetable Division

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THE PRUNE INDUSTRY OF FRANCE

By STANLEY MEHR FRUIT AND VEGETABLE DIVISION

INTRODUCTION

The United States is the world's leading exporter of dried prunes. The U.S. prune industry exports an average of nearly 46,000 tons annually, with a value of over \$19 million. Our industry is strongly dependent on export markets--about 30 percent of the pack is sold abroad. Furthermore, the industry is increasingly export-oriented, particularly as U.S. production and exports show signs of expanding.

Developments in France, possibly more than in any other country, can seriously affect the prosperity of the American prune producer (primarily Californian).

French influence on U.S. prune trade is long-standing and may be taking new directions. First, France is a major importer of prunes--particularly of U.S. prunes. In the 5 crop years 1961-65 the United States shipped an average of 5,800 tons of dried prunes to France annually; only the United Kingdom was a larger customer of California prunes. And in 1965-66, French purchases from the United States were in excess of 10,000 tons. Secondly, France, a traditional producer of prunes, and decades ago a major exporter, has the potential to increase its output and displace U.S. prunes not only in France but in other European countries as well.

The latter situation assumes particular significance with the development of the European Common Market (EEC). In 1968, the year by which the EEC is to have carried out its schedule of tariff adjustments, prunes grown in France would not be subject to any tariff upon entering Belgium, Germany, Italy, Luxembourg, and the Netherlands, while U.S. prunes entering any of these countries or France would have to pay a tariff of 16 percent.

France is the third largest producer of dried prunes after the United States, which dominates world production with nearly three-fourths of the world total (1955-64 average) of 201,700 tons, and Yugoslavia with 25,100 tons. For 1955-64, French packs have averaged 7,600 tons. Argentina, with a production of 7,400 tons, has been close behind France. Other producers, of progressively smaller magnitude, are Chile, Australia, South Africa, and Italy.

For Rumania and Bulgaria, reliable statistics are not available on dried prune production. There are indications that production in the former has been somewhat larger, and in the latter somewhat smaller, than in France.

World production, after dropping off sharply from the prewar level of 263,300 tons, appears to have stopped declining and there are signs that it may start moving upwards. The 1960-64 average of 206,000 tons was 4.4 percent above the 1955-59 average. Although this in itself is not proof of an upward trend, there are definite indications of expansion in the United States, Yugoslavia, and France. Actually, trends in world production, because of the predominance of the U.S. pack, are largely a reflection of trends in the United States. Thus, the drop from prewar output was caused almost entirely by a drop in U.S. output while the higher world production levels of 1964 and 1965 were caused largely by gains in U.S. production.

Table 1.--DRIED PRUNES, Commercial production in specified countries¹, averages, 1935-64 and annual 1955-65

Year	Argentina	Australia	Chile	France	Italy	S. Africa	United States	Yugoslavia	Total
Average:	1,000 S. T.	1,000 S. T.	1,000 S. T.	1,000 S. T.	1,000 S. T.	1,000 S. T.	1,000 S. T.	1,000 S. T.	1,000 S. T.
1934-38....	1.4	3.1	.9	4.9	.2	1.2	232.3	19.3	263.3
1950-54....	5.0	3.3	3.7	7.5	.7	1.9	158.6	17.6	198.3
1955-59....	7.0	3.1	5.4	7.0	1.0	2.7	148.0	23.1	197.3
1960-64....	7.8	4.8	5.6	8.2	1.3	1.7	149.6	27.1	206.0
1955-64....	7.4	3.9	5.5	7.6	1.2	2.2	148.8	25.1	201.7
Annual:									
1955.....	6.8	2.7	5.1	9.2	1.1	3.4	135.3	25.8	189.4
1956.....	6.6	3.2	5.0	5.0	1.0	3.5	196.2	1.5	222.0
1957.....	6.2	2.7	5.5	7.6	.8	1.7	167.9	19.6	212.0
1958.....	8.8	3.1	5.7	2.5	1.0	2.9	96.8	23.6	144.4
1959.....	6.5	3.6	5.8	10.5	1.3	2.1	144.0	45.0	218.8
1960.....	6.6	4.2	5.5	3.8	1.0	2.0	139.1	3.1	165.3
1961.....	7.3	5.0	5.6	7.2	1.4	1.2	141.9	43.3	212.9
1962.....	7.7	3.7	5.7	13.2	1.3	1.7	152.5	31.0	216.8
1963.....	6.9	5.9	5.5	8.3	1.5	2.0	133.0	23.9	187.0
1964.....	10.5	5.4	5.6	8.3	1.3	1.7	181.6	34.0	248.4
1965.....	5.5	5.9	5.6	9.3	1.6	2.7	168.8	6.4	205.8

¹ The aggregate of production in these countries is designated as "world production" in FAS compilations. Although Rumania and Bulgaria are known to have an appreciable production, reliable data are not available. Turkey, Iran and other countries in the Middle East also produce dried prunes, but the volume is believed to be minor.

PRODUCTION

Location of prune industry

Though the dried prune industry of France is over a hundred years old and has experienced great changes in magnitude, prosperity, and technology, it has never shifted from its place of origin, southwest France. Prunes and plums are grown throughout France, but the commercial production of dried prunes has always been concentrated in and around the Department of Lot-et-Garonne, the Department immediately to the southeast of the one in which Bordeaux is situated (Gironde). The Lot River joins the Garonne near the center of Lot-et-Garonne, whence the Garonne flows northwestward to Bordeaux. Much of the Department's prune acreage is located on river-bottom land, particularly in the valley of the Garonne. However, many prune orchards are also planted on the hillsides that characterize the rolling nature of much of the area.

Production and processing of dried prunes are centered around the town of Villeneuve-sur-Lot, a town of 16,000 persons. Possibly 70 to 75 percent of the production and processing capacity is situated within a 10-mile radius of this town. The French prune syndicate, Chambre Syndicale Nationale de la Prune, has its headquarters at Villeneuve. Eighteen miles to the south is the Department seat, Agen, after which the famous "French prune" of international commerce, the Prune d'Agen, is named. (This variety is the mainstay not only of the French industry but also of the prune industry of California, Argentina, Chile, and Australia.) The Chamber of Agriculture of Lot-et-Garonne and the Department's extension service, with specialists in prune culture, are in Agen. Agen has a population of 36,000.

The adjoining Departments of Dordogne, Gironde, and Tarn-et-Garonne also produce dried prunes commercially but are of much less importance. There are plantings of the Agen variety in other Departments, too, but not of commercial significance.

History

In 1893, the Lot-et-Garonne Department is said to have produced 62,000 short tons of dried prunes, on the heels of an 11,000-ton crop in 1892.¹ In that period, production averaged possibly 35,000 tons annually, encompassing extreme fluctuations from one year to another. Apparently, years of favorable weather frequently alternated with unfavorable ones. It is believed there were 6 million trees at that time, including 1 million not yet in bearing.

In the period 1904-1908, production in France - principally the Lot-et-Garonne Department - rose to even greater heights, averaging 46,000 tons per year.² Then a sharp decline set in: 1909-13 crops averaged only 20,000 tons and 1921-25 crops, 10,000 tons.² By the late thirties, production had fallen to the neighborhood of 2,000 tons per year. Extreme variations from year to year still continued: a 3,400-ton crop in 1936 was followed by a 950-ton harvest in 1937. Production during World War II is believed to have averaged about 2,000 tons.

A tabulation of average production in these periods, dried basis, shows:

<u>Years</u>	<u>Short tons</u>	<u>Years</u>	<u>Short tons</u>
1890-1900	35,000 (approx.)	1921-25	10,000
1904-08	46,000	1934-39	1,900
1909-13	20,000	1940-45	1,900

This decline in production was accompanied by a sharp decrease in prune tree numbers. By 1938, tree numbers reportedly totaled only about 800,000 to 820,000, of which about 80,000 were young trees - in striking contrast to the 1 million young trees estimated for the late nineteenth century.³

Particularly sharp attrition in the prune tree stand occurred about 1920--many of the trees that had been planted around 1880 and reached the replacement age during World War I had not been replaced. The producers, just returned from the War, did not have the capital to invest in a crop that would not yield returns for several years, particularly since most producers were small farmers.

Another serious deterrent to prune production at this time was the shortage of farm labor; the War had depleted the male population. On the other hand, many foreigners, particularly Italians, had recently moved into the area, and were engaged in agriculture; however, their main interest was in field crops rather than tree crops.

The underlying reason for the continuous and drastic decline in prune production up to the second World War was the decrease in profitability of raising prunes for drying. Though prices received by growers were well maintained until 1915, prices apparently had not kept up with rises in costs or returns from alternative crops.

In subsequent years, grower prices actually declined. By the 1930-39 period, they were averaging 3.0 to 3.2 francs per kilogram, compared with approximately 0.5 to 1.0 gold francs per kilo before World War I; but the postwar franc was worth only one-tenth the gold franc.

During this period, U.S. prune production and exports had increased markedly, and the greater competition they provided for France's prunes may well have been the major factor in the fall of French prices. By the 1921-25 period, U.S. average annual exports - to all destinations - had risen from 40,200 tons in the 1910-14 period to 63,900 tons, of which 11,203 tons went to France.

At the same time, France has shifted from a net export basis, immediately before World War I, to become a net importer of substantial proportions after the War. French exports had fallen from 10,800 tons in the 1909-13 years to 3,900 tons in the 1921-25 period. And even more striking, French imports simultaneously had increased from 4,900 tons to 12,500 tons.

¹ Barret, J. *La Prune d'Ente et le Pruneau d'Agen*. Chambre d'Agriculture de Lot-et-Garonne, Agen, 1961.

² Wheeler, L. A. *International Trade in Dried Fruit*. U.S. Department of Commerce, Washington, D.C., 1927.

³ c.f. Barret.

French exports continued to decline and imports to increase up to the eve of World War II. The trend in French foreign trade in dried prunes is illustrated by the statistics for the following periods:

<u>Year</u>	<u>Imports</u> <u>Short tons</u>	<u>Exports</u> <u>Short tons</u>
1909-13	4,900	10,800
1921-25	12,500	3,900
1926-30	18,400	2,600
1934-38	19,100	1,300

During the war years, 1941 through 1945, France's foreign trade in dried prunes was virtually nonexistent.

However, the Second World War marked a turning point in the prune industry of France. With the cessation of prune imports and with demand stimulated by wartime food shortages, prices of dried prunes in France rose several hundred percent in the short time between 1942 and 1947. Also, during the War, important technical breakthroughs took place--such as the discovery of better rootstocks and perfection of spray protection methods against sawfly ("hoplocampe") and red plum maggot ("carpocapse")--which led to higher yields and improved quality. In response to these developments, planting of prune trees was resumed, gradually at first, and then with considerable momentum.

Other crops and environment

Lot-et-Garonne is well-suited for many crops. There is a substantial acreage in field crops, particularly grains, and important acreages of vineyards, fruit trees, and vegetables. "Industrial" crops, too, like tobacco, are raised. There is also a considerable area in woodland, permanent meadow and pasture, and rotation forage crops.

Of the orchard area, about 40 percent is planted with prune trees and 60 percent with peaches, apples, pears, plums, and cherries.

There is considerable variation in terrain and soil. Elevation ranges from near sea level to approximately 1,500 feet. The undulating-to-rolling topography encompasses slopes--steep and gentle, hill tops, and valleys. Soils range from poor--on the steep slopes and in the sandy coastal lowlands--to rich in the alluvial valleys. In the river valleys, they consist of deep silty clay over stratified sand, silt, and clay. However, much of the department's soils consists of shallow, stoney, silty sand, gravelly silt, sandy clay, and clay. In the northern part of the department, mainly on higher ground, there is a large bloc of moderately deep sandy clay. There is a belt of deep sandy clay in the southwest while the very southwest corner consists of outright sand (coastal lowlands). Since prune trees are among the least demanding--with respect to soil--of fruit trees, they are able to prosper on such a wide range of soils. Also, the use of irrigation on light drier soils and plum rootstocks on heavy wetter soils enable prune trees to succeed in the less desirable situations.

The climate is mild and moderately humid. It has been characterized as a "midway" climate: semi-Atlantic and semi-Mediterranean. The latter is evident in the rainfall pattern. Though fairly evenly distributed throughout the year, precipitation is heaviest during the winter and lightest during the summer months, July, August, and September. The "semi-Atlantic" aspect is manifested in summer temperatures which are not as hot as those near the Mediterranean.

Annual rainfall at Bordeaux, in the western lowlands, averages 33 inches, while at Toulouse in the interior highlands it averages 27 inches. In the departments of Lot-et-Garonne and Tarn-et-Garonne, it averages 24 to 28 inches. In the all-vital months of July, August, and September, immediately preceding and during the harvest, rainfall at Bordeaux amounts to 2.0, 1.9, and 2.2 inches respectively and at Toulouse 1.6, 2.0, and 2.3 inches respectively. (Data for these two cities are given because they are the closest meteorological stations to Lot-et-Garonne.) Nor is this

rainfall restricted to a relatively few showers. According to the French Meteorological Service there are in the July-August-September period, on the average, 28 days of rainfall (at least 1/25 inch) at Bordeaux and 19 days at Toulouse.

Winters are not extremely cold nor are summers excessively hot. Temperatures at Toulouse and Bordeaux are very similar. Therefore, temperatures at the former only are cited. The average daily maximum temperature is 82° F. in the hottest months, July and August. The average daily minimum temperatures in the two coldest months, January and February, are 34° F. and 36° F., respectively. The growing season is long: On the average, records show only one or two days of frost in April and only one day of frost in October.

All in all, the soil and climate in Lot-et-Garonne permit a wide range of crops, including fruits, to be successfully grown there. Though conditions are generally favorable for growing prunes--there are prune trees in Lot-et-Garonne growing as well as in any other part of the world--the possibility of rain immediately before or during harvest may be a serious hazard to yields. Potentially good yields in 1963 and 1965, for example, were dissipated by summer rains which induced brown rot ("moniliose") and cracking of fruits.

Acreage

It is not possible to show prune tree acreages in France over an appreciable period of years: the statistics are simply not available. Before 1961, French agricultural statistics were subject to serious shortcomings and could not be depended upon for detailed and accurate figures on acreage, yield, and production.

In 1957, France began to overhaul, progressively, its statistical setup. New methods, such as objective sampling and use of specialized enumerators and crop reporters came into being. Even aerial photographs are now used to check on figures obtained in the land use surveys. In 1961, French agricultural statistics were drastically revised, and, according to the Ministry of Agriculture, were no longer comparable, in certain respects, with the data for previous years. In this report, therefore, only acreage figures for 1961 onward are used. There is every reason to believe that these are more reliable than figures for earlier years and that French statistics are continuing to improve.

Solid-planted and mixed.--Fruit tree acreages in France are usually of two categories: solid-planted ("culture pures") and intermixed or isolated ("associees ou isolees"). The former are pure, solidly-planted stands, as prune or other fruit orchards are in the United States. The latter are either mixtures of more than one kind of woody plant, as prunes intermingled with apricots or grape vines, or isolated trees. The latter may be border trees--along the edge of a field or lining a road or else trees scattered here and there in a field.

Most of France's prune tree acreage is in the form of solid-planted orchards--86 percent in 1964. In Lot-et-Garonne, solid plantings are even more predominant, accounting for 91 percent of the acreage in 1964. Also, the trend is toward an ever-decreasing proportion of intermixed or isolated acreage, not only of prune trees but of other kinds of fruit trees as well.

Previously, when small plantings and hand labor prevailed, growers of mixed or scattered trees were not seriously handicapped. However, with the advent of mechanized orchard culture and the constantly increasing costliness of labor, operators of mixed or scattered plantings find themselves at a competitive disadvantage. Thus, as trees in such plantings die or are pulled out--often to make way for larger fields or more efficiently laid-out modern orchards--the attrition is not offset by new plantings of mixed or isolated trees. There is, furthermore, some question as to the validity of the statistics on intermixed or isolated acreage since the area under such trees does not lend itself very well to objective measurement. This report insofar as it deals with acreage will, therefore, refer only to the solidly-planted area.

Acreage by department.--The official statistics clearly show that the Department of Lot-et-Garonne is by far the most important prune-growing district of France. In the four years for which data are given, Lot-et-Garonne accounted for about 80 percent of France's prune acreage.

Table 2.--France's acreage of prunes, by region, department, and type of planting, 1961-64

Region and department	1961		1962		1963		1964	
	Solid-planted	Intermixed or isolated	Solid-planted	Intermixed or isolated	Solid-planted	Intermixed or isolated	Solid-planted	Intermixed or isolated
Aquitaine:	<u>Acres</u>	<u>Acres</u>	<u>Acres</u>	<u>Acres</u>	<u>Acres</u>	<u>Acres</u>	<u>Acres</u>	<u>Acres</u>
Dordogne.....	741	¹ 618	457	618	494	569	1,507	568
Gironde.....	494	741	494	741	544	741	642	74
Lot-et-Garonne....	14,777	2,076	15,321	1,977	15,691	1,853	15,746	1,606
Total.....	16,012	² 3,435	16,272	3,336	16,729	3,163	17,895	2,248
Midi-Pyrenees:								
Garonne-Haute.....	--	7	--	7	--	7	--	7
Gers.....	445	25	494	25	791	--	790	--
Lot.....	235	618	247	618	272	618	272	617
Tarn-et-Garonne....	642	99	1,112	99	1,136	99	1,136	124
Total.....	1,322	749	1,853	749	2,199	724	2,198	748
Other.....	267	454	235	306	178	306	178	306
Grand total....	17,601	² 4,638	18,360	4,391	19,106	4,193	20,271	3,302

¹ Estimated. ² Partly estimated by FAS.

Source: Statistique Agricole, 1961-64. Ministère de l'Agriculture, France.

Although its percentage share actually declined from 84 in 1961 to 78 in 1964, its prune area--in absolute terms--rose from 14,777 acres in 1961 to 15,746 acres in 1964--equivalent to a 6.6 percent increase over a span of three years. Two other departments in the region of Aquitaine (France's most southwest region), Dordogne and Gironde, have appreciable but much smaller acreages of prunes.

The region of Aquitaine thus contains nearly 90 percent of the prune acreage. Virtually all the rest of France's prune acreage is in the Midi-Pyrenees, the region immediately to the south-east of Aquitaine. The department of Tarn-et-Garonne (which borders Lot-et-Garonne) has the most acres, 1,136 in 1964, of prunes in the Midi-Pyrenees. Two other departments there, Gers and Lot, also have significant acreages of prunes.

Bearing and non-bearing.--Official French statistics do not differentiate between bearing and non-bearing acreage, nor do they give any breakdown of acreage by age of trees. However, an association for the advancement of the marketing of horticultural products of the central Garonne area, S.A.M.O.G.A., carried out a prune acreage survey, by age categories, in Lot-et-Garonne in 1958 and 1959. This has provided valuable information, not only for evaluating rates of plantings in previous years but also for providing some indication of future production.

J. Barret, director of the Agricultural Extension Service of Lot-et-Garonne, in his 1961 study⁴, presented a tabulation of prune acreage in Lot-et-Garonne, by age categories, for the average of 1953 and 1954, the average of 1958 and 1959, and the years 1964, 1965, 1970, and 1975. Barret's projections were based on the age distribution of the trees enumerated in the survey of 1958 and 1959 and on his own assumptions as to the likely rates of planting in years subsequent to 1958 and 1959. The survey estimated average annual rates of planting to have been as follows:

Year	Average rate Acres
1938-1943	193
1943-1948	247
1948-1953	479
1953-1958	1,028

(The acreage of trees planted before 1938 was also enumerated but accurate annual rates of planting could not be determined for trees that old).

⁴ c.f. Barret.

Table 3.--Percentage of solid-planted acreage of prunes in France, by region and department, 1961-64¹

Region and department	1961	1962	1963	1964
	<u>Percent</u>	<u>Percent</u>	<u>Percent</u>	<u>Percent</u>
Aquitaine:				
Dordogne.....	4	2	3	7
Gironde.....	3	3	3	3
Lot-et-Garonne.....	84	84	82	78
Total.....	91	89	88	88
Midi-Pyrenees:				
Garonne-Haute.....	--	--	--	--
Gers.....	3	3	4	4
Lot.....	1	1	1	1
Tarn-et-Garonne.....	4	6	6	6
Total.....	8	10	11	11
Other.....	1	1	1	1
Grand total.....	100	100	100	100

¹ Derived from data in Table 3.

Table 4.--Acreage of prunes¹ in Lot-et-Garonne by age groups, averages 1953 and 1954, 1958 and 1959, and projected 1964, 1965, 1970, and 1975

Age categories	Actual		Projected			
	1953 and 1954 average	1958 and 1959 average	1964	1965	1970	1975
	<u>Acres</u>	<u>Acres</u>	<u>Acres</u>	<u>Acres</u>	<u>Acres</u>	<u>Acres</u>
0 to 5 years.....	2,400	5,140	3,460	3,090	3,090	3,090
5 to 10 years.....	1,240	2,400	5,140	5,140	3,460	3,090
10 to 15 years.....	990	1,240	2,400	2,990	5,140	3,460
15 to 20 years.....	1,240	970	1,240	1,240	2,990	5,140
20 to 25 years.....	1,240	1,240	970	1,240	1,240	2,990
More than 25 years.....	2,450	2,480	2,450	2,210	2,210	2,460
Total.....	9,560	13,470	15,660	15,910	18,130	20,230

¹ In solidly planted stands.

Source: Barret, J. La Prune d'Ente et le Pruneau d'Agen. Chambre d'Agriculture de Lot-et-Garonne, Agen, 1961.

The exceptionally high 1953-58 average rate of planting, of over 1,000 acres per year, was maintained through the 1959-60 season, according to Barret's study for the Chamber of Agriculture. Subsequently, the rate of planting, according to his estimates, declined but was still heavy enough to result in a net increase in total acreage. New plantings in the 1960-61 season were estimated at about 500 acres, and in the subsequent seasons an annual rate of slightly over 600 acres was foreseen. From the above planting rates, Barret projected a 1964 prune area of 15,660 acres. The French Government, in 1965, reported the actual 1964 prune area in Lot-et-Garonne as 15,746 acres (solid-planted).

Barret's projections for 1970 and 1975 therefore merit consideration. According to them, the 1970 area would amount to something over 18,100 acres and the 1975 area would exceed 20,200 acres for Lot-et-Garonne. This means that the 1975 acreage would be nearly 30 percent above 1964 and 50 percent above the 1958-59 tree area.

Age of maximum production.--As for trees in the age categories of maximum productivity (15 to 25 years), the increase would be even more striking: Such 1975 acreage (8,130 acres) would be over $3\frac{1}{2}$ times as large as the 1964 acreage (2,210 acres). Whereas only 14 percent of the 1964 acreage was in the high-yielding age categories (most of the acreage being very young), by 1975, by contrast fully 40 percent would be of high-yielding age.

Production and yields

As with the acreage figures, reliable detailed official French production statistics are available only since 1961. The statistics differentiate between commercial and noncommercial production (fresh basis) of prunes for drying. For France, as a whole, approximately 90 percent of the production has consistently qualified as "commercial". Lot-et-Garonne averages close to 90 percent commercial output, as do the other departments in the two producing regions, Aquitaine and Midi-Pyrenees. Of the negligible production in other parts of France, a much smaller proportion qualifies as commercial. A very large share of the commercial production comes from solidly planted orchards.

The proportion of the crop that qualifies as commercial will undoubtedly rise, as the new plantings come into full production and as the attrition of mixed and scattered plantings continues. In a few years, virtually the entire crop will be in the commercial category.

As would be expected, Lot-et-Garonne also dominates the production, on a fresh basis, of prunes for drying. In 1962-64, the Lot-et-Garonne crop represented about 80 percent of the national total.

The brevity of the period for which reliable detailed production data are available does not permit determination of any trends. In the short run, the effects of weather can obscure other influences, such as increasing bearing surface and improving yields.

Thus, while the exceptionally large 1962 crop reflected, in part, favorable weather conditions, it also showed the influence of the expanding acreage coming into bearing. However, though early in the season the 1963 crop appeared to be even larger than the 1962, rain, hail, and monilla infection brought on by precipitation during the summer sharply reduced the crop. The resulting

Table 5.--France's commercial production of prunes for drying (fresh basis) by region and department, 1961-64

Region and department ¹	Commercial production							
	Quantity	Percent of total	Quantity	Percent of total	Quantity	Percent of total	Quantity	Percent of total
	1961		1962		1963		1964	
	<u>S. T.</u>	<u>Percent</u>	<u>S. T.</u>	<u>Percent</u>	<u>S. T.</u>	<u>Percent</u>	<u>S. T.</u>	<u>Percent</u>
Aquitaine:								
Dordogne.....	3,638	100	1,874	94	1,488	89	1,323	92
Gironde.....	1,984	90	1,984	90	1,764	88	1,764	89
Lot-et-Garonne.....	18,739	89	38,580	92	33,069	90	29,762	90
Total.....	24,361	90	42,438	92	36,321	90	32,849	90
Midi-Pyrenees:								
Gers.....	992	90	1,213	73	992	100	496	90
Lot.....	320	96	375	97	320	96	320	95
Tarn-et-Garonne.....	2,315	95	2,094	95	2,645	96	2,976	90
Total.....	3,627	93	3,682	86	3,957	96	3,792	90
Other.....	617	65	518	75	287	67	165	12
Grand total.....	28,605	90	46,638	90	40,565	91	38,606	88

¹ Only regions and departments with significant production separately shown.

Source: *Statistique Agricole*, 1961-64. Ministère de l'Agriculture, France.

Table 6.--France's production (commercial and noncommercial) of prunes for drying (fresh basis) by region and department, 1961-64

Region and department ¹	1961		1962		1963		1964	
	Production	Percent of grand total	Production	Percent of grand total	Production	Percent of grand total	Production	Percent of grand total
	<u>S. T.</u>	<u>Percent</u>	<u>S. T.</u>	<u>Percent</u>	<u>S. T.</u>	<u>Percent</u>	<u>S. T.</u>	<u>Percent</u>
Aquitaine:								
Dordogne.....	3,738	11.5	1,984	3.9	1,653	3.7	1,433	3.4
Gironde.....	2,205	7.0	2,205	4.3	1,984	4.5	1,984	4.7
Lot-et-Garonne.....	20,943	66.3	41,887	82.1	36,376	81.7	33,069	78.7
Total.....	26,786	84.8	46,076	90.3	40,013	89.9	36,486	86.8
Midi-Pyrenees:								
Garonne-Haute.....	11	--	11	--	11	--	11	--
Gers.....	1,102	3.5	1,653	3.3	992	2.2	551	1.3
Lot.....	331	1.0	386	.8	331	.8	331	.8
Tarn-et-Garonne.....	2,425	7.7	2,205	4.3	2,756	6.2	3,307	7.9
Total.....	3,869	12.2	4,255	8.4	4,090	9.2	4,200	10.0
Other.....	948	3.0	683	1.3	419	.9	1,345	3.2
Grand total.....	31,603	100.0	51,014	100.0	44,522	100.0	42,031	100.0

¹ Only regions and departments with significant production separately shown.

Source: Statistique Agricole, 1961-64. Ministere de l'Agriculture, France.

1963 tonnage was only about average and much below 1962 volume. Similarly, in 1965 rain and ensuing oidium infection reduced the harvest considerably, while in 1964 excessively dry weather hurt the crop.

Thus, each of the three crops subsequent to 1962 yielded well below potential tonnage attainable on the base of the larger bearing acreage achieved.

Projections of production would, of course, be based upon assumptions of acreage and yield. The former has already been discussed. As for yields, the study of the Chamber of Agriculture in Lot-et-Garonne⁵ has assumed that "normal" yields, in terms of dried weight, would be approximately as follows (one ton of dried prunes is derived from 3 tons of fresh):

Age of trees	Short tons per acre
0-5 years	0
5-10 "	0.49
10-15 "	1.23
15-20 "	1.72
20-25 "	1.96
Over 25 "	1.23

These yields, coupled with the acreages projected in table 4, would have resulted, in 1965, in a dried prune production of 13,400 tons for Lot-et-Garonne alone, and for France as a whole, of 16,800 tons, or a commercial pack (conservatively estimated at 90 percent) of 15,100 tons. As indicated earlier, the 1965 crop was hit by bad weather and the commercial pack totaled only 9,300 tons less than five-eighths of "normal" (see table 7). In arriving at "normal" yields, the study took into account the improved techniques employed in the new prune orchards in France. Substantial deviations, above and below the normal yield, were of course also foreseen as a consequence of weather and other natural conditions.

⁵ C.f. Barret.

The above assumed yields for the various age categories, when weighted by the assumed acreages in each of those categories (Table 4), give the following overall normal dry yields per acre:

	Projected dry yield for all acreage	Projected dry yield for bearing acreage
	Short tons per acre	Short tons per acre
1965	0.85	1.05
1970	1.01	1.22
1975	1.16	1.37

In its original production projections, the Chamber of Agriculture study had allowed increases in yields up to 12 percent because of advances in orchard technology. However, a French private market research organization, C.R.E.D.O.C.,⁶ has indicated that even higher yields are likely as a result of modern orchard practices. It appears, from this organization's production projections, that it assumed the following "normal" dry yields per bearing acre:

	Yield S.t. per acre
1965.	1.20
1970.	1.32 - 1.61
1975.	1.41 - 1.67

Although these yields are 3-32 percent higher than originally indicated in Barret's Chamber of Agriculture study, they do not seem unduly high when compared with California dried prune yields. The average yield per bearing acre in California was higher at 1.69 tons in the 5 years, 1955-59, and 1.77 tons in the 5 years, 1960-64. The range in California yields during these 10 years was from a low of 1.15 tons in 1958 to a high of 2.21 tons in 1956.

Again, to judge from the appearance of many of the prune trees in Lot-et-Garonne,--their size, vigor of growth, and general healthfulness--their yields should compare favorably with prune trees in any other part of the world. As a matter of fact, the more outstanding fruit growers in Lot-et-Garonne have been able to achieve average yields substantially larger than 1.67 dried tons per acre.

However, with regard to French production, the key question concerns weather. Will weather conditions in the Garonne area, particularly before and during harvesttime, permit yields to attain the projected average yields? Such yields may be attainable--on the basis of highly fluctuating annual yields, and those of some seasons well below average, of others well above.

In the most recent 5 years, 1961 through 1965, French commercial production of dried prunes ranged between 7,200 and 13,200 tons. Even the lowest production in this period--7,200 tons in 1961--was well in excess of the average of the 5 preceding years (1956-60) of 5,900 tons.

However, this rise in production is only a very small beginning compared with the projected increase over the next 10 years. Then, as the expanded acreage comes into full bearing--at yields that are at all near the so-called "normal"--French production will literally skyrocket. Even if the yields should turn out well below "normal", French production will still increase substantially over that of recent years. Since all projections are for Lot-et-Garonne alone, and since that department accounts for 80 percent of France's acreage and production, the projections for France as a whole are obtained by multiplying the Lot-et-Garonne projections by 1.25.

⁶ Centre de Recherches et de Documentation sur la Consommation, Paris, France.

Table 7.--France's production of dried prunes, actual 1960-64 and 1965 and projected 1965, 1970, and 1975

Item	Actual		Projected		
	1960-64 Average	1965	1965	1970	1975
	<u>Short tons</u>	<u>Short tons</u>	<u>Short tons</u>	<u>Short tons</u>	<u>Short tons</u>
Commercial pack.....	8,200	9,300	--	--	--
Projection A ¹	--	--	³ 15,000	23,000	29,000
Projection B ²	--	--	⁴ 17,000	24,000 to 30,000	30,000 to 35,000

¹ Projection by J. Barret published in 1961, for Lot-et-Garonne, multiplied by 1.25. Rounded to nearest 1,000 tons. ² Projection by C.R.E.D.O.C. in 1965 which also projected Lot-et-Garonne and then multiplied by 1.25. Rounded to nearest 1,000 tons. ³ Commercial pack: projected total pack of 16,800 tons x 90 percent. ⁴ Commercial pack: projected total pack of 19,300 tons x 90 percent.

Through 1965, only an estimated 90 percent of the French harvest entered commercial channels. However, in future years, as the modern new orchards come into production and the traditional plantings go out of existence, virtually all of France's production will become commercial. Therefore, the projections for 1970 and 1975 production do not require any differentiation between commercial and non-commercial.

According to Barret's projections (1961), French production should attain a normal level of 23,000 tons by 1970 and 29,000 tons by 1975; according to C.R.E.D.O.C.'s, (1965) it would average 24,000-30,000 tons⁷ by 1970 and 30,000-35,000 tons by 1975. Thus, in the 10 years between 1965 and 1975, production would more than triple, or, alternatively, nearly quadruple, if one or the other, these projections should be borne out.

An increase of this magnitude--from 9,300 tons to 29,000 or to 30,000-35,000--would of course have a profound effect on the French marketing of prunes, particularly on France's foreign trade in prunes and unavoidably on the foreign trade of some other countries that import or export prunes. Also, if a production level of this magnitude should consist of widely fluctuating output rather than a fairly consistent volume from one year to the next, then the effects on international markets will be even more marked. With the apparent vulnerability of the French crop to unfavorable summer weather, it is possible for yields to fall about 40 percent short of "normal", as in 1965. Thus, a projection of 30,000 tons would infer that while 18,000 tons is possible in some years, 42,000 tons is also possible in others.

Culture

Size--The size of French prune orchards is small by U.S. standards. In 1963 there were, according to a rough estimate of the Services Agricoles (Agricultural Extension Service), about 3,000 to 4,000 prune growers in Lot-et-Garonne; prune acreage (solid planted and otherwise) totalled 17,544 acres. Accordingly that year the prune-tree area per grower averaged 4.4-5.8 acres or approximately 5 acres.

An average can, of course, consists of a wide range of sizes. This is certainly the case in Lot-et-Garonne. There are many orchards, if they can be called that, of less than 1 acre; but these are decreasing in number. At the other extreme, there are some exceptionally large orchards. In the course of this survey, one such--a farm with 111 acres of prunes, divided among a few orchards, was visited. A farm with 99 acres of prunes--69 acres in one orchard--was also visited,

⁷ In 1966, the French prune industry estimated that it would have a dehydrating capacity of 22,000 tons by 1970.

another with 49. Farms with 25 or more acres of prunes are by no means uncommon, particularly in the hills. These are generally larger than valley orchards, though some very large orchards are to be found on valley land too. Ministry officials estimate that over two-thirds of the prune trees are on sloping land.

According to a 1963 Ministry survey, nearly half of the prune acreage in Lot-et-Garonne was in orchards of 2.5 to 12.4 acres, over one-fourth in smaller and one-fourth in larger orchards.

Spacing.--Spacing of trees in the solid-planted orchards is very similar to that in California, 23 by 23 feet is common, resulting in 83 trees per acre. There are some instances in France of closer spacing, 20 by 20 feet, and also of greater planting distances, such as 26 by 26 feet. However, the 23 by 23 spacing, in French terms, 7 meters by 7 meters or approximately 200 trees per hectare, is recommended by the extension service in Lot-et-Garonne.

A ministry survey showed that prune orchards in Lot-et-Garonne average about 100 trees per acre.

Pruning.--Pruning of prune trees, though more elaborate than that practiced in the United States, is not as painstaking as for other kinds of fruits in France. The preferred form of training has been the "gobelet demi-tige," or half-trunk goblet. The half-trunk--about 3½ to 4 feet in height--is recommended by the Services Agricoles in preference to the tall-trunk and low-trunk (bush form) types of training. As in California, 3 primary scaffold branches are recommended, but it is not considered necessary to distribute the 3 primaries up and down the trunk--it is considered entirely satisfactory for all 3 branches to emanate from the trunk at about the same level.

From this point on, the French pruning artistry comes into play. The secondary branches are spaced 2 feet apart on the primaries, the lowest one situated about 4 to 4.5 feet above the ground. Not only are the secondaries evenly spaced; they are also systematically placed, with all of the lowest secondaries branching to the right, the next higher secondaries all branching to the left (or vice versa), and so on. The tertiary branches or "laterales" which bear the fruit spurs are also alternated regularly left and right, but horizontally, as they emanate from the secondaries. They are also evenly spaced, 10 to 12 inches apart, beginning at a specific distance (6 to 8 inches) above the junction of the secondary and primary branches.

Needless to say, the subsequent pruning is prescribed in great detail to obtain the ideal shape--a spherically shaped tree, as wide as it is high, with a maximum of fruiting wood open to sunlight and air and convenient for tillage and harvesting.

Even more elaborate is the pruning required for espalier-trained prune trees. However, this type of training is hardly ever seen in modern prune orchards--the labor requirements are too great.

As a matter of fact, French prune growers, faced with ever scarcer and more expensive labor, are switching to the less intensive American-type system of pruning.

Insect and disease control.--As in other producing countries, this is an important element of French culture. To achieve good control, French orchardists have to spray about 6 times a year;

Table 8.--Size of prune orchards in Lot-et-Garonne, 1963

Item	Size (in acres)							
	0-0.5	0.5-1.2	1.2-2.5	2.5-4.9	4.9-12.4	12.4-49	49-124	124-247
Trees (1,000).....	22	88	235	248	270	228	65	46
Percent.....	2	7	20	21	22	19	5	4
Percent, cumulative...	2	9	29	50	72	91	96	100
Acres.....	207	869	2,159	2,979	2,638	2,393	556	247
Percent.....	2	7	18	24	22	20	5	2
Percent, cumulative...	2	9	27	51	73	93	98	100
Trees/acre ¹	106	101	109	83	102	95	117	186

¹ Derived figure; obtained by dividing acreage into tree numbers.

Source: Ministry of Agriculture Orchard Survey in Lot-et-Garonne.

some spray as many as 10 times. A high percentage of the modern plantings follow a spray schedule. However, a substantial proportion of the older plantings, particularly the smaller ones, are not sprayed at all. (In 1964, about 22 percent of the prune trees were at least 20 years old.)

Among the main pests, and means of control, Sawfly (*Hoplocampa* sp.), which appears at blooming time, lays its eggs under the epidermis of the flower calyx; the eggs hatch in a few days, penetrating into the ovary which they completely devour, affecting 3 to 5 fruits successively in this way. The affected fruits fall prematurely. Control is achieved through spraying with phosphoric esters when the eggs hatch, a time that coincides with petal fall. Aphids, of various genera and species, cause curling of leaves and the tips of young shoots as they feed. Dormant oil sprays in winter or, if necessary, a choice of insecticides in the spring is used. Leaf-eating caterpillars of various genera are combatted by dormant oil sprays in winter or phosphoric esters, DDT, or lindane in the spring. "Carpocapse" (*Laspeyresia funebrana*), sometimes called red plum maggot, has caused serious fruit damage. The adult, a small moth, deposits eggs on young fruit. The larva burrows into the fruit, which then withers and falls. A second generation follows, the eggs being laid on the prunes a few weeks before the fruit matures. This second generation causes the main damage. It is combatted with parathion and oleoparathion sprays toward the end of July. A second spray is usually necessary after a 10-15 day interval. Damage from red spider mites, in recent years has become serious enough to warrant control measures.

The most serious diseases are brown rot and rust. Brown rot, termed "Moniliose" by the French, is caused by *Sclerotinia fructigena*, and results in rotting of the fruit, following entrance of the fungus at a point of bruise or insect puncture. It is transmitted to neighboring fruit by simple contact. The rotten fruits mostly fall though some remain on the tree, becoming mummified. Fungicides such as captan, Bordeaux mixture, or sulphur, are applied periodically prior to the harvest.

Rust, *Tranzschelia prunispinosa*, affects the foliage. A severe attack can cause the leaves to fall prematurely and reduce the vigor and productivity of the trees. Fungicidal sprays during the growing season are recommended.

Tillage.--These practices in French orchards are now much simplified. Formerly a number of tillages--plowing and harrowing--were carried out during the year. A basic practice had been to till the soil away from near the trunk after harvest to collect autumn rainfall and then to mound the soil back around the trunk to prevent water's accumulating during the winter. In the spring, the earth would again be removed from the base of the trees and spread evenly between the trees.

However, French growers have now shifted to so-called "American techniques" of cultivation, which spare the expense of unessential tillings and the dangers of compaction of the soil and of cutting shallow young feeder roots by too-deep tillage. The ground is generally clean-cultivated a number of times, in a shallow fashion, by harrowing. Preparatory to the harvest the soil is smoothed and, if possible, rolled. Discing-under of cover crops, though also recommended by French extension men, is probably not widely practiced.

Fertilization.--Fertilization is considered essential by the prune experts of the Services Agricoles. It is difficult to judge, however, the proportion of French prune growers who do apply fertilizer, as well as to what extent these applications conform to the recommendations of the Services Agricoles. The latter agency recommends fertilization at three distinct stages in prune culture: (1) At the time the young trees are planted, (2) during the nonbearing years of the young orchard, and (3) during the years an orchard is in production.

Fertilization at planting is considered indispensable, with the fertilizer to be worked into the ground prior to setting out the trees. Application of both organic fertilizers (animal manure, cover crop, compost) and inorganic is suggested. However, since organic fertilization is often not possible, the application of 900 to 1,800 pounds of phosphatic fertilizer and 350 to 700 pounds of potassic fertilizers per acre is advised. Since the plantings are on soils generally poor in phosphoric acid and only average in potassium content, this basic fertilization is said to yield "spectacular results."

After this original enrichment of the ground, the young trees require only additions of nitrogen fertilizer. Applications of about 1 to 2 pounds of 20 percent nitrogen fertilizer per tree are recommended for the first two years, with slightly more the third year. These fertilizations are also considered highly important by the Services Agricoles.

The third-stage fertilization is that of "maintenance," that is, keeping the trees in good producing condition. For trees of average production, the following annual applications per acre are advised: phosphatic fertilizer, 360 to 450 pounds; potassic fertilizer, 220 to 270 pounds; and nitrogenous fertilizer, 540 to 620 pounds. The phosphorous and potassium are to be applied in the autumn and the nitrogen in 3 applications between spring and fall.

Needless to say, these recommendations represent the ideal rather than the usual practice. It is doubtful that this much fertilizer is generally applied by those growers who actually fertilize. Furthermore, according to a leading French grower, well over half of the growers do not apply fertilizer regularly.

Irrigation.--Irrigation is not generally practiced in prune orchards; only 14 percent are irrigated according to a Ministry survey. As a matter of fact, the Services Agricoles has recommended against irrigation, maintaining that irrigation would raise the moisture content of the fruit and would only necessitate more dehydration during processing in order to obtain well-dried fruit. It has felt that the normal rainfall in the area (24 to 28 inches annually) is adequate if the growers handle their soil correctly.

Irrigation of other fruit is common in the area; virtually all of the apple and pear orchards, and many of the peach orchards, are irrigated. There is therefore a tendency toward more irrigation of prunes than previously. As a matter of fact, a number of large diversified orchards were observed where prunes, in addition to the other tree fruits, were also irrigated. Once having installed irrigation for other fruits, orchardists find it efficient to utilize it for prunes too. Till now, most of the water has been obtained from wells, usually less than 50 feet deep. Increasing use, though, is being made of the plentiful river water.

Varieties.--Virtually only one variety is grown for drying, known in most countries as the French prune or Prune d'Agen, and most commonly known in France as the Prune d'Ente. It is actually illegal in France to use the designation "dried prunes of Agen" except for prunes of the d'Ente variety.

There are a number of strains of the Prune d'Ente however. Following up on research initiated in 1942 by the Services Agricoles of Lot-et-Garonne, the experiment station at Grande-Ferrade (near Bordeaux) selected out a number of improved strains that have been available to nurserymen and orchardists since 1948-50. Practically all of the new plantings are of these improved strains. They are designated by numbers; best known are P.707, P.711, P.632, and P.698.

Of these, P.707 is considered the most desirable by the extension service. It is a very vigorous grower and has good productivity, and the fruit is "very large" according to the French, "weighing 40 to 45 grams (fresh basis), depending on conditions." This would be equivalent to 30/34 dried fruits per pound, at a 3:1 dryout. The ordinary d'Ente tree is said to yield fruit averaging only 25 to 40 grams under cultural conditions, equivalent to 34/55 dried fruits per pound, and averages about 70 dried fruits per pound under poor cultural conditions.

The 707 strain blooms 4 to 6 days later than the ordinary d'Ente. This may be an advantage in reducing the hazard of frost damage. While in Lot-et-Garonne the ordinary d'Ente achieves full bloom normally during the first few days of April, the P.707 doesn't reach that stage till April 10. However, the fruit matures later too, and this is a disadvantage as rainfall increases and temperature decreases as the summer wanes.

As for other characteristics, the color of the fruit is the same as that of the ordinary French prune. The pit, however, is relatively plump and heavy; its length-to-thickness ratio is 1.62:1.

In spite of the French orchardists' exclusive reliance on various clones of the Prune d'Ente for dried prunes, this by no means indicates a lack of access to other varieties. It is no exaggeration to say that literally dozens of varieties of plums, including prunes, are grown in France; many originated there.

The French are familiar with the Imperial (Imperiale Epineuse and other Imperial varieties). However, they no longer grow it to any extent because it is extremely difficult to dry the fruit well; its blooms are self-sterile (requiring another variety for pollination); and it contains too many variant sub-strains.

Interestingly, the French do not consider Robe de Sergeant as a distinct variety but rather as another name for the ordinary French prune. The color of the French prune's skin--reddish purple--was said to resemble the color of the dress worn by constables in southwest France before the Revolution. However, the French have grown a variety, Double Robe, which may be synonymous with California's Robe de Sergeant. Its fruit is larger than that of d'Ente but the trees are considered less vigorous, the limbs weaker, and fertility of bloom more variable than d'Ente's.

As for rootstocks, the myrobalan plum is far and away the most prevalent rootstock for the Prune d'Ente. It has been used for many years as the rootstock for the ordinary Prune d'Ente and, more recently, for the plantings of the improved strains of d'Ente. The French, of course, have had experience with various kinds of rootstocks including almond, peach, and other varieties of plum. In view of the generally acknowledged superiority of myrobalan, the experiment station at Grande-Ferrade has been endeavoring to develop a number of specialized strains of myrobalan. Over 90 percent of the Prune d'Ente are grafted on myrobalan.

Harvesting.--Harvesting usually begins about August 15-30, attains its peak August 30-September 20, and concludes by the end of September. Harvests have normally covered a 30-40 day period. The time from early August into September is considered critical because of the danger of rain and the likelihood that this will cause brown rot and other serious damage.

Traditionally, French orchardists favored picking up the prunes from the ground, where they had fallen naturally and were thus "very ripe. . .and very rich in sugar." This required an excessively long harvesting period. Growers, therefore, adopted the practice of shaking the trees--lightly and a number of different times--to shorten the harvest. Violent shaking, particularly mechanical shaking, that enabled a one-shot picking was frowned upon. In fact, fruit so harvested could not qualify for a high-quality grade; it was felt that such fruit was of too variable maturity. Growers also adopted the practice of placing frames of canvas under the trees to keep the fruit from falling on the ground while shaking the branches with poles.

Despite the antipathy to mechanical harvesting, rapidly increasing labor costs and the risks of a long harvest period have stimulated French orchardists to switch to mechanical harvesting. An estimated 35 percent of the 1966 crop was brought in by means of mechanical harvesters; that is, motor-borne catching frames (often with a conveyor belt and a fan system to blow away trash) coupled with power-driven shakers.

This percentage is expected to increase. However, there are obstacles to a complete mechanization of the harvest: the steepness or uneven topography of some orchards, the smallness of many, the uneven ripening of fruit (which makes several pickings necessary), and the deterioration of soil structure caused by heavy machinery. Finally, when many fruits fall after a storm, hand-picking is unavoidable.

A simple harvesting machine which is gaining acceptance and does not include any mechanical device is a rectangular canvas frame, resembling a large trampoline or army cot, mounted on bicycle wheels. The canvas is tilted so the prunes which fall on it roll down to one side, which is shaped into a funnel. The prunes roll down the funnel into fruit boxes placed directly under it. The fruit is shaken onto the canvas by shaking the tree limbs with a hook-ended pole. This apparatus is cheap and easy to handle, does not pack the soil, and minimizes tree damage. Reportedly, two men with two units can harvest 20 trees per hour. The mechanical harvester most commonly used is said to handle 40 trees per hour with a 4-man team. The harvesting is fast and clean but the cost is high.

LABOR COSTS

French wage rates--for farm workers and processing plant workers--have risen sharply over the past decade. In comparison with those of the United States, even recent record-high French wages may seem relatively low. However, a number of factors have to be considered.

First, the direct conversion into dollars, of wages paid in a foreign currency, can be misleading. Because prices of goods, and especially services, vary greatly among countries, it is not easy to tell what level of living a particular wage income will provide. (Rents, for instance, in many areas of Europe are extremely low by U.S. standards.) The difficulty is all the greater since workers in different countries have very different preferences for many goods and services.

Second, "fringe benefits" are of relatively much greater importance--as a benefit to the employee and cost to the employer--in France than in the United States. The additional cost to French employers of supplemental employee benefits was estimated⁸ as equivalent to 50 percent of the hourly wage in food processing industries in 1962. (According to the U.S. Department of Labor, fringe benefits cost employers in the U.S. food and kindred products industry 23 percent of straight-time wages in 1962.)

There are guaranteed minimum hourly wages for farm labor in France. Since these have been in effect for a number of years, their evolution provides a good indication of the trend in farm pay in recent years.

Using this guaranteed wage as an index, with the year 1955 representing 100, the *Annuaire Statistique de la France*, 1965, indicated that hourly farm wage rates rose about 60 percent in 10 years; as follows:

April 1955	100	October 1960	129.8
April 1956	100	December 1961	133.5
August 1957	105.6	June 1962	136.7
January 1958	110.2	November 1962	143.3
March 1958	114.9	July 1963	149.8
June 1958	118.1	October 1964	153.5
February 1959	123.7	March 1965	156.7
November 1959	127.0	September 1965	160.5

Farm wage rates, according to the latest information, have by no means stabilized. It appears that the minimum hourly wage increased by over 5 percent between 1965 and 1966. The guaranteed minimum wage in the agricultural area around Paris was reported as 35.5 cents per hour in July 1966 compared with 33.7 cents a year earlier. In the Paris area, it should be noted, wages are about the highest in France. In some areas, the minimum hourly wage is several cents less than in the Paris region.

The French Ministry of Agriculture also publishes figures on the monthly pay of various categories of farm workers. In 1964, the monthly pay for farm workers--able adult males--was \$86 to \$113, depending on degree of skill, for those receiving neither room nor board. Adult female workers average about \$50 per month. The average cash wage for all types of farm help was \$86 per month.

In California, the 1964 monthly average farm wage was \$328 plus housing as against the French rate of \$131 for supervisory, \$108 for skilled or semiskilled male, and \$84 for male common workers--plus housing. The California monthly rate when room and board were furnished was \$244; comparable French wage was \$97 for the supervisory, \$84 for the skilled or semiskilled, and \$56 for the common categories. Though low compared with California or even other states of the United States, French monthly wage rates have been moving up rapidly. In the five years between 1959 and 1964, the cash pay for skilled and semiskilled male workers receiving room and board has risen 66 percent. For the same categories of workers paid in cash only, the wage has risen 58 percent. For male common labor, the increases were 46 and 32 percent, respectively.

⁸ Institut National de la Statistique et des Etudes Economiques, November 1963.

Table 9.--Average monthly gross pay¹ for farm workers in France according to type of remuneration and type of worker, April 1964

Type of worker	Room and board	Board only	Room only	Neither room nor board
	U.S. dollars	U.S. dollars	U.S. dollars	U.S. dollars
Supervisor.....	97.20	--	131.45	139.14
Skilled or semiskilled male farm workers.....	83.69	89.38	107.53	113.40
Ordinary male farm workers.....	56.31	51.60	83.59	86.28
Ordinary female workers.....	45.38	35.46	51.89	49.05
Young persons, 14 to 17 years, and workers of reduced capabilities.....	27.60	22.50	43.50	34.76
All.....	52.22	51.82	92.33	86.03

¹ Converted to U.S. currency on basis of 1 Franc = 20.405 U.S. cents.

Source: Annuaire Statistique de la France, 1965.

Wages in the French agricultural products and food industries, which would include prune processing plants, have risen even more sharply than farm wage rates. They have doubled in less than ten years, a rate of increase which matches the average for French wage rates in all of industry and commerce. The following index of hourly wage rates in the agricultural and food products industries, taken from Annuaire Statistique de la France, 1962 and 1965, well illustrates this striking increase:

January 1, 1956.	100	1961.	151.3
Annual averages:		1962.	164.7
1956.	103.6	1963.	179.5
1957.	111.6	1964.	192.6
1958.	125.3	January 1, 1964.	185.9
1959.	133.8	July 1, 1964.	192.7
1960.	142.1	January 1, 1965.	199.2

Though the year-to-year rate of increase has diminished from the earlier astronomic rates, it is still appreciable. Between January 1, 1964 and January 1, 1965, wage rates rose 7.2 percent.

The actual cash wage in these industries is still quite low in comparison with U.S. wages. In 1964, in France, average hourly wage rates⁹ had the following range:

	Men U.S. cents per hour	Women U.S. cents per hour
Common laborer	48.6	45.7
Specialized laborer	51.4	49.4
Semiskilled worker	56.3	52.8
Skilled worker	62.4	57.5
Highly skilled worker	70.2	

In the same year, in the United States, straight time for production workers in the food and kindred products industries averaged \$2.27 per hour. This was nearly four times the level of French wages for skilled workers (62 cents for men and 58 cents for women).

⁹ Annuaire Statistique de la France, 1965.

PROCESSING

Drying and processing facilities

Except for a few small producers, most growers dry their own fruit--either in their own dryers or through collective dryers. More and more prunes are being dehydrated in collectively used dryers.

Of a total drying capacity of 14,300 tons (dried basis) in 1966, about 6,000 tons were accounted for by collective dehydrators. A program has been set up to increase the number of these collective dryers, which are managed by "groupements de producteurs," that is, the officially sanctioned grower groups. Thus, 200 collective drying units with a capacity of 16,500 tons, dried basis (out of a total of 22,000 tons capacity) are expected to have been built by 1970. The Prune Agricultural Economic Committee is in charge of initiating and coordinating investments in drying equipment.

Interestingly, some of the projections of France's 1970 dried prune production--based on the volume of fresh fruit that will be available--exceed the expected dehydration capacity of 22,000 tons.

With a background dating back many decades, the prune industry of France--once the world's pioneer in dried prune production--is a unique mixture of antiquated and ultra-modern facilities. Even in the first half of the present decade, ancient, obsolete dehydrating and processing installations were still being used even while modern plants--clean, light, and roomy--with up-to-date equipment such as conveyors and automatic packaging machinery, were also in operation.

The trend, of course, has been toward rapid modernization. In a sense this modernization is made easier by France's rapid expansion of production from a small base. Only limited plant capacity has been needed for France's minor postwar prune output, so only a limited investment is being scrapped as the new facilities come into being. The number of packinghouses or factories, as the French call them, is decreasing as the capacity increases. Although 60 processors were still in business in 1966, no more than 10 are expected to be operating after a few years. Obviously the remaining processors will grow in size. These may not necessarily be "independents" because French growers have expressed the desire to process prunes themselves and the Prune Agricultural Economic Committee may build a cooperative processing plant owned by growers. Processing capacity in 1966 was estimated at 19,000 short tons.

The larger dehydrators have been based on the well-known Fouchet tunnels. The incoming fresh prunes are washed, sorted mechanically into at least two sizes, and put into the tunnels--with a capacity of 11 fresh tons each--for 18 to 20 hours at 167° F. After moving through the tunnels, the prunes are sorted into all the different size categories and then dumped into 30-kilogram (66-pound) boxes. These dehydrated, that is, "natural condition", prunes have traditionally contained more moisture--20 to 24 percent--than dehydrated California prunes. Though a drying ratio of 3:1 is generally indicated as a rule of thumb in French statistics, packers claim that it ranges between 2.5:1 and 3.0:1.

The natural condition prunes are then processed in a steam-type boiler; after this their moisture content is usually between 24 percent and 26 percent ranging as high as 29 percent.

Bulk-processed prunes have been packed in 12½ kilogram (27.6 pounds) cardboard boxes. Consumer-size packages, of plastic, have been of various weights, ranging from 50 grams upward. A decree published in May 1966 stipulated that by 1971 all consumer packages must be limited to three sizes: 250 grams, 500 grams, and 1 kilogram (1,000 grams). Also, under this decree, prunes with a moisture content of 26-29 percent must bear a special notation.

The same decree permits packaged fruit to be considered prunes, if it has over 29 percent but not more than 35 percent moisture. However, the package must bear the notation "half-dried . . . maximum moisture 35 percent." Normally, plastic packages containing prunes with relatively high moisture have had to be heated again--to 212° F--to minimize spoilage since the French government prohibited the addition of any chemical. However, in February 1965 the Repression des Fraudes, the agency responsible for food and drug regulations, published a notice

authorizing the use of sorbic acid or potassium sorbate on certain types of high-moisture prunes. Though a tolerance was not listed, the notice specified that the dosage of one or the other of these substances may not exceed 2 grams per liter in the soaking bath, and that the acidity of the bath together with that of the treated prunes may not exceed a pH of 4.5; in addition the use of citric acid is permitted to lower the pH of the bath to 4.5, in order to bring about the necessary conditions for proper treatment.

MARKETING

Supply and distribution

In 1962-65, supplies of prunes in France averaged substantially higher than in the two preceding four-year periods. Both larger production and heavier imports contributed. The rising supplies found their outlet mainly in higher domestic disappearance. Ending stocks, that is, those carried over into the new crop year, have also become perceptibly more important: more supplies are apparently needed in the "pipeline" to service a much greater annual disappearance.

It is apparent from Table 10 that disappearance averaged nearly 4,000 tons per year higher in the 1962-65 period than in 1958-61. It also appears that in the 1965-66 and 1966-67 crop years, disappearance within France will have attained at least 16,000 tons annually, a postwar peak. Little is known about French domestic disappearance. Statistically, it is not independently calculated but is simply a residual. Import and export data are, of course, official foreign trade statistics. The production figures used in this report are unofficial estimates, representing a consensus of sources conversant with the French prune industry.¹⁰ The figures on stocks are

Table 10.--France's supply and distribution of dried prunes and per capita consumption, year beginning August 1, averages and annual, 1954-66

Crop year	Beginning stocks	Production	Imports	Supply	Exports	Domestic disappearance	Ending stocks	Distribution	Domestic disappearance per capita ¹
	Short tons	Short tons	Short tons	Short tons	Short tons	Short tons	Short tons	Short tons	Pounds per yr.
4-year Average:									
1954-57.....	600	7,200	4,000	11,800	700	10,700	400	11,800	0.49
1958-61.....	200	6,000	4,900	11,100	800	10,100	200	11,100	.45
1962-65.....	1,500	9,800	5,700	17,000	700	14,000	2,300	17,000	.59
Annual:									
1954.....	700	7,200	4,200	12,100	1,000	10,800	300	12,100	.50
1955.....	300	9,100	2,900	12,300	400	11,600	300	12,300	.53
1956.....	300	5,000	6,200	11,500	400	10,000	1,100	11,500	.46
1957.....	1,100	7,600	2,700	11,400	1,100	10,200	100	11,400	.46
1958.....	100	2,500	4,600	7,200	300	6,900	--	7,200	.31
1959.....	--	10,500	2,600	13,100	1,200	11,600	300	13,100	.52
1960.....	300	3,800	6,600	10,700	400	9,900	400	10,700	.44
1961.....	400	7,200	5,800	13,400	1,200	12,000	200	13,400	.53
1962.....	200	13,200	4,800	18,200	900	14,100	3,200	18,200	.61
1963.....	3,200	8,300	3,500	15,000	1,000	12,700	1,300	15,000	.53
1964.....	1,300	8,300	5,600	15,200	500	13,400	1,300	15,200	.55
1965.....	1,300	9,300	9,000	19,600	300	16,000	3,300	19,600	.66
1966 ²	3,300	13,500	3,500	20,300	1,500	16,500	2,300	20,300	.67

¹ Population as of middle of calendar year, i.e., approximately beginning of crop year. ² Preliminary.

¹⁰The French Ministry of Agriculture has published an official estimate of dried prune production each year. However, since official agricultural statistics before 1961 were not based on solid foundations, the industry was also consulted as to the size of the pack. The FAS production figures have therefore been developed by the U.S. Agricultural Attache in Paris after comparison, each season, of Ministry and French industry estimates. Ministry of Agriculture statistics, though, have been improving greatly. The disparity between industry and Ministry estimates appears to be narrowing, and very likely, Ministry data will henceforth be as accurate as any.

similarly of an unofficial nature, based on indications provided by industry leaders. Domestic disappearance is then simply a residual after subtracting exports and end-of-season stocks from the supply, the remainder represents domestic disappearance.

As stated, there is little information on the utilization of dried prunes within France. In some years, for instance, undetermined tonnages of substandard-quality prunes have been diverted to the manufacture of prune jam. It is known that prunes are mostly used in cooking; but not known are the quantities, if any, utilized for baby food manufacture (a new but growing industry in France), prune juice and concentrates (traditionally unpopular items in Europe), alcoholic beverages containing prunes, and canning. As for the utilization in the form of prunes as such--undoubtedly the all-dominant use--there is little indication of the relative importance of retail versus institutional outlets (restaurants, hotels, hospitals, and the like) but the latter outlets are said to be important.

It does seem clear, however, that consumption is expanding, not only in aggregate but also on a per capita basis. From 1960-61 (a season with an exceptionally short crop) onward, total disappearance has shown a definite upward trend. Also, annual per capita disappearance has risen over 20 percent from the 1954-57 average of 0.49 pound, to 0.59 pound, in the 1962-65 period. This represents a gain of 2.6 percent per year over an eight-year span.

Interestingly, French per capita consumption now closely approximates that of the United States, where consumption has fluctuated between 0.58 and 0.68 pound per person in the latter four-year period. In the 1965-66 crop year, consumption was almost identical--0.66 pound in France and 0.64 in United States.

The question, of course, is whether French consumption will continue to rise, a vital question in view of the impending sharp rise in production. The French industry has recently begun promoting prune consumption. Expenditures for this purpose are likely to increase. Although promotion and advertising may well stimulate prune sales, the development of new-product outlets may also be necessary to enable further substantial gains in consumption within France. It remains to be seen whether new uses such as baby food and juice, or relatively unknown forms such as canned or pitted prunes, will become important, as they have in the United States.

In 1965, C.R.E.D.O.C. projected dried prune consumption in France for 1970 and 1975. According to C.R.E.D.O.C., annual per capita consumption should rise from the 1958-60 average of 0.48 pound per capita (somewhat higher than the 1958-60 FAS average of 0.42) to 1.16 pounds in 1970 and 1.35 pounds in 1975. C.R.E.D.O.C. projected a 1970 population of 51.20 million and a 1975 population of 53.75 million.

At these rates of consumption and these population levels, total consumption would amount to 29,700 tons by 1970 and 36,400 tons by 1975. Should such consumption levels materialize, the French prune industry would not face a really serious marketing problem nor even have to resort to heavy export sales. As a matter of fact, France would still be a net importer as illustrated by the following figures:

	<u>1970</u>	<u>1975</u>
	<u>Short tons</u>	
Production projected by C.R.E.D.O.C.	24,000 to 30,000	30,000 to 35,000
Consumption " " "	30,000	36,000
Net surplus (+) or deficit (-)	0 to -6,000	-1,000 to -6,000

C.R.E.D.O.C. further assumes that less than one-fourth of the French pack would be of larger fruit sizes--45 per half kilogram or larger. It also assumes that nearly 40 percent of French consumption will continue to consist of these large fruit sizes. Therefore by 1975, in round numbers, 6,000 to 7,000 tons of large sizes would have to be imported annually while exports of smaller-size prunes would range from less than 1,000 to nearly 5,000 tons per year.

Even the necessity to export as much as 5,000 tons of small prunes would not confront the French industry with a serious marketing problem--if consumption approximated 36,000 tons a year. However, to achieve that level, per capita consumption would have to increase 76 percent (from 0.66 to 1.16 pounds) in the five years between 1965 and 1970, an average increase of 15.2 percent per year! For the following five years, between 1970 and 1975, per capita consumption would have to increase a further 16-odd percent (from 1.16 to 1.35 pounds), representing an average annual increase of nearly 3.3 percent.

How likely is it that France will achieve these 1970 and 1975 consumption levels projected by C.R.E.D.O.C.? Not very, in the view of this writer. As earlier indicated, French consumption (per person) has risen an average of 2.6 percent annually during a recent eight-year period. This is a substantial rate of gain, but a far cry from an annual average of 15.2 percent or even 3.3 percent. Even if one utilizes a recent short-term period of exceptionally sharp increases, that is, by comparing the average of 3-crop years--1964-66 with that of the 3 previous years--1961-63--the average rate of gain in per capita consumption was 3.8 percent a year. This is admittedly considerable, but much below the projected rate for 1965 to 1970. Furthermore, this 3.8 percent rate shows signs of tapering off. Between 1965 and 1966 (the latter a year of abundant supplies), consumption may have risen only 1.5 percent.

True, C.R.E.D.O.C. assumes that the real prices of French prunes will decline, presumably because of the large production, and hence stimulate demand. The extent of the assumed price decline is not specified. However, the projection assumes, for all fruit, a 10-percent reduction in real prices by 1970 and a 16-percent reduction by 1975, from a 1959-61 base. Such a price reduction (actually constant prices but rising real income) may be conservative; an appreciable decline has already taken place for the medium and smaller sizes of the 1966 pack--the first of the large crops--which will be followed by even larger crops. The response in per capita consumption, however, has been slight in 1966-67, and even with sharply lower prices, it is doubtful that consumption will rise at the accelerated rate projected by C.R.E.D.O.C.

Comparisons with the levels and trends of per capita consumption in other countries do not lend much encouragement to the feasibility of France's attaining a consumption of 1.35 pounds per person by 1975. In the last 10 years, U.S. consumption has ranged between 0.58 and 0.88 pound per person, with the upper end of the range typifying the earlier years, and the lower levels the latter years. As for European countries, it is the exception rather than the rule for consumption to exceed one pound. Only in the Scandinavian countries of Denmark, Norway, and Finland, does it exceed 1 pound (1.71, 1.50, and 1.12 pounds, respectively), and in Sweden it approximates three-fourths of a pound. These are traditionally exceptionally heavy consumers of dried prunes. In other countries known as important prune markets--the United Kingdom, West Germany, Netherlands, Belgium, Italy, and Switzerland--consumption is less than one-half pound per person. Furthermore, except for the Scandinavian countries, per capita consumption in countries other than France, appears to be declining.

It appears that a more realistic projection of French consumption would be based upon continuation of the 2.6-percent average annual increase experienced during the recent 8-year span. At this rate, consumption would increase 13 percent between 1965 and 1970, from 0.66 to 0.75 pound per capita. This would result in a 1970 consumption of about 19,000 tons, using C.R.E.D.O.C.'s projected population of 51,200,000 (1965--48,922,000). Between 1970 and 1975, consumption would increase a further 13 percent--to 0.85 pound per capita. With a projected 1975 population of 53,750,000, this would result in a consumption total of 23,000 tons, in round numbers. While FAS analysis leads to the conclusion that consumption will be smaller than projected by C.R.E.D.O.C., the production projections of C.R.E.D.O.C. may be attainable, on the average.

More conservative consumption estimates, based on extension of the 8-year trend, coupled with C.R.E.D.O.C.'s own production estimates, would lead to a far more difficult marketing situation than the one envisioned by C.R.E.D.O.C. The following figures illustrate this:

	<u>1970</u>	<u>1975</u>
	<u>Short tons</u>	
Production projected by C.R.E.D.O.C.	24,000 to 30,000	30,000 to 35,000
Consumption projected by FAS	19,000	23,000
Net surplus (+) or deficit (-)	+5,000 to +11,000	+7,000 to +12,000

Thus, France would experience surpluses, that is, availabilities over and above domestic requirements, of 5,000-11,000 tons by 1970 and 7,000-12,000 tons by 1975. With the previously stated assumptions as to size of fruit--over three-fourths of the production in smaller fruit and almost two-fifths of the consumption in large fruit--the French marketing situation would be further aggravated. By 1975, there would be an excess of 9,000-13,000 tons of smaller sizes, that is, excess to domestic demand for this size. In each period, there would also be an import requirement for several hundred tons of large prunes, in excess of the amounts of this size raised.

Fluctuations in yield would make the surplus situation still worse. Should French yields exceed "normal" by, say, 40 percent--a conceivable situation--the French industry would be confronted with tonnages far in excess of internal demand. On the other hand, in years of below-normal yields, France would still have to import as much as a few thousand tons of dried prunes.

Foreign trade

For decades now, France has been a net importer of prunes. She has played a very minor role as an exporter since the outbreak of World War I. In the 10 years, 1955 through 1964, French exports have averaged only 712 tons annually of a world total of 74,886 tons. In other words, France has accounted for only 1 percent of world exports in the recent past. And even in the immediate years preceding World War II (1934-38), French exports averaged little over 1 percent of the world total.

These relatively negligible exports moved predominantly into two areas: the French sphere of influence (Algeria, Guadeloupe, Martinique, and Morocco) and the European Economic Community. Algeria in the former group and Germany and Netherlands in the latter have been the main customers. These two groups combined took 83 percent of France's exports in the 1955-59 period and 90 percent in the 1960-64 period.

In modern times, it is as an importer that France has achieved considerable importance in international prune trade. In the years just before World War II, France imported over 19,000 tons annually, and was the world's largest importer of dried prunes. Though its import volume was subsequently sharply reduced, it still rates as one of the leading importers of prunes. Its import volume in the 1960-64 crop years, averaged 5,184 tons annually; this reached 8,984 tons in 1965-66.

The United States has been the main source of France's imports. Before World War II, U.S. prunes dominated the French market to the virtual exclusion of any other imported prunes; in the 5 years, 1934 through 1938, 99.7 percent of the 19,105 tons imported annually were from the United States.

U.S. predominance has not been this marked in the postwar period. In the 5 years, 1955 through 1959, the United States supplied 57 percent of French imports. Yugoslavia had become a relatively important supplier, furnishing 1,533 tons annually as against 2,170 tons from the United States.

Table 11.--Exports of dried prunes from specified countries¹, averages 1934-64 and annual 1955-65

Marketing year ²	Argentina	Australia	Chile	France	S. Africa	United States	Yugoslavia	Total
	Short tons	Short tons	Short tons	Short tons	Short tons	Short tons	Short tons	Short tons
Average:								
1934-38.....	--	851	619	³ 1,348	271	97,010	17,225	117,324
1950-54.....	⁴ 1,850	⁵ 1,148	3,242	³ 963	655	38,492	³ 9,988	56,338
1955-59.....	3,436	941	3,295	697	1,088	45,878	19,074	74,409
1960-64.....	5,007	2,099	3,056	783	196	43,113	21,162	75,416
1955-64.....	4,222	1,520	3,176	712	642	44,496	20,118	74,886
Annual:								
1955.....	2,486	1,745	4,200	422	1,358	38,477	29,351	78,039
1956.....	2,895	1,365	2,234	400	1,538	61,575	1,427	71,434
1957.....	3,232	186	4,262	1,097	210	61,564	18,798	89,349
1958.....	5,720	330	3,027	326	1,239	27,060	20,082	57,784
1959.....	2,848	1,081	2,753	1,240	1,093	40,716	25,714	75,445
1960.....	4,570	2,058	3,270	376	281	37,000	13,353	60,908
1961.....	3,343	2,297	3,355	1,102	97	44,150	16,559	70,903
1962.....	4,384	2,220	3,310	893	154	42,473	29,530	82,964
1963.....	4,321	1,839	2,850	994	161	40,081	24,324	74,570
1964.....	6,461	2,083	2,494	548	286	51,862	18,700	82,434
1965 ⁶	3,700	4,700	3,100	300	100	63,800	9,000	84,700

¹ The aggregate of exports from these countries is designated as "world exports" in FAS compilations. However, Rumania and Bulgaria export appreciable tonnages, too, but are not included in these totals because of the unavailability of their export figures. Based on the import statistics of some of the countries they export to, it is known that Rumania exported at least 8,800 tons and Bulgaria 6,000 tons, as an annual average in the 6 years, 1958-63. Italy's exports are no longer published by the Italian government, but they averaged less than 400 tons annually in recent years. ² Calendar year for Southern Hemisphere countries; year beginning August 1--France, September 1--United States, October 1--Yugoslavia. ³ Calendar years. ⁴ 3-year average 1952-54. ⁵ 4-year average 1951-54. ⁶ Preliminary.

Table 12.--France's foreign trade in dried prunes, averages 1934-38, 1955-59 and 1960-64, and annual 1960-65, year beginning August 1

Country	Average			Annual					
	1934-38 ¹	1955-59	1960-64	1960	1961	1962	1963	1964	1965
	Short tons	Short tons	Short tons	Short tons	Short tons	Short tons	Short tons	Short tons	Short tons
Imports:									
United States.....	19,046	2,170	4,651	5,353	4,725	4,414	3,341	5,424	8,807
Italy.....	--	14	26	66	53	13	--	--	--
Portugal.....	--	43	25	23	42	5	17	40	30
Yugoslavia.....	--	1,533	437	1,056	510	338	101	179	126
Other countries.....	59	51	45	101	59	16	42	4	21
Grand Total.....	19,105	3,811	5,184	6,599	5,389	4,786	3,501	5,647	8,984
Exports:									
United States.....	--	--	30	--	113	38	--	--	--
Algeria.....	329	278	336	311	306	561	331	170	130
Guadeloupe.....	7	3	6	--	--	--	--	31	23
Martinique.....	10	2	35	19	28	26	57	43	42
Morocco.....	9	8	--	--	--	--	--	--	--
EEC:									
Belgium-Luxembourg....	34	28	20	--	--	--	--	97	--
Germany.....	398	192	98	--	142	2	339	8	--
Italy.....	--	--	--	--	--	--	--	--	--
Netherlands.....	1	66	178	--	375	191	168	156	--
Total EEC.....	433	286	296	--	517	193	507	261	--
Other countries.....	560	120	80	46	138	75	99	43	88
Grand Total.....	1,348	697	783	376	1,102	893	994	548	283

¹ Calendar years.

Source: Statistique du Commerce Extérieur de la France.

A bilateral trade agreement between France and Yugoslavia, under which the Yugoslavs were to supply France with at least 1,500 tons annually, was largely responsible for Yugoslavia's emergence on the French market. This agreement was motivated by national balance-of-payments reasons rather than commercial considerations. The French import requirement is essentially for larger sizes of prunes, mainly 30/40's and 40/50's, which are obtainable from the United States, while Yugoslavia has been able to supply only the smaller sizes--rarely larger than 70/80's. As the French government's interest in including dried prunes in bilateral trade agreements subsequently waned, France's imports of Yugoslav prunes fell precipitously. In the last 3 crop years, less than 200 tons per year were purchased from Yugoslavia, while in the last 3 seasons, takings of U.S. prunes accounted for 95, 96, and 98 percent of French imports. Small import shipments from Italy, Portugal, and Turkey also take place, from time to time.

From the standpoint of U.S. exports, France has been a major foreign outlet. In recent years, France has rated as the third largest foreign market--the United Kingdom usually being largest and Italy or Canada second. In the 1965-66 season, however, France led all other destinations with 10,057 tons, according to U.S. export statistics, accounting for 16 percent of the U.S. prune export total of 63,750 tons. Admittedly, the 1965-66 season was unusual in that French consumption and inventory buildup were exceptionally high. However, in the 5 preceding seasons, an annual average of 4,747 tons, or 11 percent of U.S. prune exports, moved to France.

Table 13.--U.S. exports of dried prunes by country of destination, averages 1934-38, 1955-59, 1960-64, and annual 1960-65, year beginning September 1

Country of destination	Average			Annual					
	1934-38	1955-59	1960-64	1960	1961	1962	1963	1964	1965
	Short tons	Short tons	Short tons	Short tons	Short tons	Short tons	Short tons	Short tons	Short tons
Belgium-Luxembourg.....	5,648	1,865	1,727	1,746	2,021	1,766	1,756	1,346	1,807
France.....	20,445	3,060	4,747	5,008	5,064	3,634	3,570	6,460	10,057
Germany, West.....	¹ 7,310	5,661	2,129	2,860	1,420	1,886	1,942	2,535	2,550
Italy.....	450	761	4,284	2,032	3,083	3,706	5,563	7,038	8,726
Netherlands.....	5,838	2,740	1,464	1,035	1,793	1,814	1,061	1,617	2,501
Total EEC.....	39,691	14,078	14,351	12,681	13,381	12,806	13,892	18,996	25,641
Denmark.....	5,450	2,547	2,932	2,268	3,217	3,095	2,335	3,745	4,560
Finland.....	2,119	1,854	2,227	2,331	1,909	2,439	2,227	2,228	3,095
Norway.....	2,581	2,382	1,933	1,334	1,738	2,277	1,726	2,592	2,977
Sweden.....	4,388	2,554	2,615	2,071	2,591	2,902	2,498	3,014	3,863
Switzerland.....	289	1,089	591	600	837	577	357	584	815
United Kingdom.....	19,390	10,158	7,728	6,549	10,099	7,788	6,345	7,860	9,229
Other countries.....	² 6,101	765	577	473	617	509	466	³ 816	⁴ 718
Total Europe.....	80,009	35,427	32,954	28,307	34,389	32,393	29,846	39,835	50,898
Mexico.....	279	345	729	499	717	638	872	921	907
Venezuela.....	97	588	735	572	709	676	801	918	884
Other countries.....	3,430	659	493	448	437	564	526	488	549
Total Latin-America...	3,806	1,592	1,957	1,519	1,863	1,878	2,199	2,327	2,340
Canada.....	9,223	6,029	5,628	5,671	5,659	5,824	5,212	5,776	5,814
Japan.....	93	84	754	324	801	602	830	1,213	1,310
New Zealand.....	1,113	664	524	483	481	396	506	755	715
Philippines.....	372	131	290	109	164	162	497	518	719
Other countries.....	2,394	1,951	1,006	587	793	1,218	991	1,438	⁵ 1,954
Grand Total.....	97,010	45,878	43,113	37,000	44,150	42,473	40,081	51,862	63,750

¹ All Germany. ² Includes 2,876 tons to Poland. ³ Includes 177 tons to Iceland and 368 tons to Ireland. ⁴ Includes 150 tons to Iceland and 293 tons to Ireland. ⁵ Includes 369 tons to Algeria, 321 tons to Hong Kong, and 247 tons to Israel.

Source: Bureau of the Census, U.S. Department of Commerce.

Important as U.S. prunes exports to France are, they represent but a minority of U.S. prune exports to the Common Market. In the 5 seasons, 1960-61 through 1964-65, U.S. exports to the latter averaged 14,351 tons annually, or 33 percent of all U.S. prune exports. In 1964-65 and 1965-66, they attained the exceptionally high levels of 18,996 and 25,641 tons respectively, representing 37 percent and 40 percent of all U.S. prune exports.

These figures are of particular interest in light of potential French export surpluses and the development of a preferential tariff within the EEC. Before January 1, 1962, the tariff duties¹¹ levied by each EEC country on prunes were the same on prunes originating in the EEC as on those originating elsewhere. Thus the German duty was 8 percent on prunes, be they from France or United States. The duty imposed by Benelux (Belgium, Netherlands, and Luxembourg) was also 8 percent. The Italian duty was 15 percent and the French duty was 22 percent. However, beginning January 1, 1962, the EEC began to move toward elimination of duties among the six members and the establishment of a common tariff toward imports from other countries. This common tariff, the so-called "CXT" (Common External Tariff), has been set at 16 percent for dried prunes although the simple average of the six duties prevailing on January 1, 1957, was 13 percent. Simultaneously, the Six began reducing the rates applicable to each other. These are known as the Internal Tariffs. By July 1968, these internal duties will have been reduced to zero and the external tariff will have attained 16 percent (involving an increase in German, Dutch, Belgian, Luxembourg, and Italian duties and a decrease in the French duty).

Thus, by 1968, when the scheduled tariff adjustments will have been completed, France will enjoy a 16 percent tariff advantage over the United States, Yugoslavia, and other non-EEC prune exporters not only within France but also in export trade to another Common Market country. This is a substantial advantage--it would amount to over 3½ cents on a pound of prunes priced at 20 cents per pound, f.a.s. California. (The 16-percent duty would be levied on the c.i.f. value of

Table 14.--EEC Imports of dried prunes, average 1960-64

Country of origin	Belgium-Luxembourg	France	Germany	Italy ¹	Netherlands	Total
	Short tons	Short tons	Short tons	Short tons	Short tons	Short tons
Non-EEC:						
United States.....	1,471	4,198	2,195	3,224	1,249	12,337
Bulgaria.....	--	--	834	--	5	839
Romania.....	--	--	477	--	--	477
Turkey.....	--	8	349	5	7	369
Yugoslavia.....	--	584	2,494	1,744	116	4,938
Argentina.....	--	--	533	22	117	672
Australia.....	--	--	100	2	42	144
Chile.....	--	--	563	70	132	765
S. Africa, Rep. of....	--	--	3	130	15	148
Other countries.....	299	67	35	7	19	427
Total non-EEC.....	1,770	4,857	7,583	5,204	1,702	21,116
EEC:						
Belgium-Luxembourg....	--	--	--	--	20	20
France.....	--	--	104	--	146	250
Germany.....	--	--	--	--	68	68
Italy.....	--	24	135	--	--	159
Netherlands.....	51	--	15	--	--	66
Total EEC.....	51	24	254	--	234	563

¹ Four-year average, 1960-63.

Source: Official foreign trade statistics of each EEC country.

¹¹ These are the January 1, 1957 rates which are used as the benchmark for pre-EEC duty levels.

Table 15.--EEC net trade in dried prunes, 1960-64 average

Item	Belgium-Luxembourg	France	Germany	Italy	Netherlands	Total
	Short tons	Short tons	Short tons	Short tons	Short tons	Short tons
Imports from non-EEC countries.....	1,770	4,857	7,583	5,204	1,702	21,116
Exports to non-EEC countries.....	4	526	27	117	173	847
Net imports.....	1,766	4,331	7,556	5,087	1,529	20,269

Source: Official foreign trade statistics of each EEC country.

Table 16.--EEC COUNTRIES: Duties on prunes, selected years, 1957-68

Year	W. Germany		Benelux		France		Italy	
	Percent ad valorem		Percent ad valorem		Percent ad valorem		Percent ad valorem	
1957 (Pre-EEC).	8.0		8.0		22.0		15.0	
	Internal	External	Internal	External	Internal	External	Internal	External
1962.....	5.0	11.0	5.6	11.0	15.4	19.8	8.4	13.8
1966.....	3.2	12.8	3.2	12.8	7.7	18.4	0	14.4
1968.....	0	16.0	0	16.0	0	16.0	0	16.0

Table 17.--Wholesale prices of French processed prunes in bulk, f.o.b. packinghouse, Lot-et-Garonne¹

Size Per 1/2 kg. ³ Per lb.	Marketing year ²								
	1958-59	1959-60	1960-61	1961-62	1962-63	1963-64	1964-65	1965-66	1966-67
	U.S. cents per lb.	U.S. cents per lb.	U.S. cents per lb.	U.S. cents per lb.	U.S. cents per lb.	U.S. cents per lb.	U.S. cents per lb.	U.S. cents per lb.	U.S. cents per lb.
22/33.....20/30...	--	--	--	--	50.0	46.3	49.1	38.0	46.3
33/44.....30/40...	58.3	50.9	48.1	--	37.5	39.8	--	38.0	37.0
44/55.....40/50...	50.9	42.6	44.0	42.6	32.4	33.3	31.9	31.5	30.5
55/66.....50/60...	45.4	36.1	42.6	38.7	29.2	29.2	29.2	28.7	26.4
66/77.....60/70...	39.8	33.3	41.7	34.1	26.4	25.9	25.5	27.8	24.5
77/88.....70/80...	35.2	27.8	40.3	30.4	23.6	22.7	21.8	25.5	22.2
88/99.....80/90...	31.5	23.1	35.6	23.1	20.4	18.5	18.5	23.1	17.6
99/110.....90/100..	25.9	19.4	31.5	20.2	17.1	17.1	15.7	--	--
110/121.....100/110..	21.3	17.6	29.6	17.4	15.7	17.1	13.9	--	--
121/132.....110/120..	16.7	16.2	25.9	14.2	13.9	14.3	--	--	--
132/143.....120/130..	13.9	--	23.1	11.8	12.0	12.0	--	--	--

¹ Packed in 12-1/2 kilogram (27.6 pounds) cases. ² Quotations as of mid-January each marketing year. ³ 500 grams.

Source: Consensus of French processors.

22 cents (20 cents plus 2 cents for ocean freight and insurance). For 20-cent prunes, this preference plus the advantage of cheaper freight--because of closeness to the EEC market--would give France's prunes a cushion of over 4½ cents a pound compared with overseas prunes. For higher priced prunes the margin would be larger, for cheaper prunes smaller.

The preferential tariff will stand the French prune industry in good stead as it attempts to capture both the entire French market (except for a small tonnage of large prunes) and the markets of the other five EEC members. The latter, a market of 16,000 tons (1960-64 average), will be particularly vital since France may have 9,000 to 13,000 tons of smaller sizes of prunes for which it cannot find a home within France.

Prices

Prices received by French growers for dried prunes vary greatly from one year to the next. In the 1960-65 period, there was an average year-to-year price fluctuation of over 24 percent. California prices, in the same period, experienced an average fluctuation of 16 percent. As to relative price levels, in four of these six years, the French grower received appreciably higher prices than his California counterpart; in two of the years, California prices were moderately higher.

Unfortunately, a longer price series is not available; reliable estimates of prices received by French growers first came into being with the 1960 crop. From this point through 1965, French and California prunes show the following (season average) prices:

Crop	France	California
	<u>U.S. cents per lb.</u>	<u>U.S. cents per lb.</u>
1960	24.18	19.25
1961	15.07	16.55
1962	17.38	14.10
1963	13.52	15.20
1964	18.51	11.20
1965	² 20.18	10.85

¹ Natural condition. ² Preliminary.

Source: Ministry of Agriculture for French prices and USDA for California prices.

The price received by French growers in any particular season appears to be influenced by the magnitude of both the current season's crop and the carryover from the previous season. Thus, the exceptionally high price of 24.18 cents per pound for the 1960 crop was undoubtedly a reflection of the very short 1960 harvest, while the exceptionally low price of 13.52 cents for the 1963 crop was caused, at least in part, by a heavy inventory of 1962-crop prunes. The volume of imports in a given season does not have much effect upon that season's price because only a small proportion of a season's imports enter France that early in the season. Most of the imports come into France well after the growers have disposed of their prunes.

Wholesale prices of French processed prunes have been among the highest in any producing country. Year in and year out, they have been substantially higher than those of California whose prices in turn are usually higher than those of Yugoslavia, Chile, Argentina, and Rumania, among others. (Members of the French and U.S. industries may make the point that their prices include a premium for superiority in quality, grading, or packaging.) Indicative of the high price levels that have prevailed in France are the January quotations, for example, of 50/60's, a medium size. In the period 1958-59 through 1965-66, they ranged between 28.1 and 45.4 cents per pound. These were fully 50 percent higher than comparable California prices that prevailed at the same time. For larger sizes, French prices have been even more astronomic. In the same eight years, January quotations for 40/50's ranged between 30.8 and 50.9 cents per pound, while 30/40's have rarely been as low as 37½ cents.

French prices, however, have been trending downward--in response to larger supplies, beginning with the 1962-63 season. In each of the latter four seasons, prices have been appreciably lower than in any of the preceding four seasons. This is reflected in the difference between the 4-year averages for the two periods.

Between the first and second 4-year periods French prices declined on nearly all sizes by about 30 percent. U.S. prices, over the same span of years, also declined but not as sharply, generally about 20 to 25 percent. The gap between French and U.S. wholesale prices had thus been narrowing. The appreciable decline registered by French wholesale quotations for medium and smaller sizes in 1966-67 made French prices the lowest in fully 10 years, but still higher than California prices, which rose sharply while French prices were falling. The latter, in January 1967, ranged from 30.5 cents for 40/50's to 17.6 cents for 80/90's--all well above California quotations. However, Dutch, German, and British traders reported French export quotations considerably below these levels--ranging from 21.3 cents for 40/50's to 15.4 cents for 70/80's, f.o.b. Bordeaux. This raises the question of possible export subsidization by the French prune industry. Such subsidization is authorized under the Prune Inter-trade Agreement (to be described).

Normally, the gap between French and California prices is greatest for the largest sizes. There are two reasons for this: The French demand for large sizes usually exceeds the supply. The U.S. demand for small sizes, on the other hand, is relatively strong because of the substantial volume required for making prune juice.

The trend in French prices toward more competitive levels is of significance to the U.S. prune industry. With the advent of larger packs in France it appears that wholesale prices there will probably be closer to the 1966-67 level than the prices prevailing in earlier years. Such prices, even when coupled with the Common Market's tariff protection and a freight-rate advantage, would still not be competitive with average U.S. prune prices in France and in the other five countries of the Common Market. However, further reduction in French wholesale prices to the levels of the (apparently subsidized) 1966-67 export quotations would enable Garonne Valley prunes to be keenly competitive with California prunes not only in France, but in the rest of the Common Market. In other markets, though, such French prices would be slightly higher than average U.S. prices.

Table 18.--Average mid-January wholesale prices of bulk, processed prunes, f.o.b. packing house, Lot-et-Garonne and California

Size (no. per lb.)	1959-62 average		1963-66 average	
	Lot-et-Garonne	California	Lot-et-Garonne	California
	<u>U.S. cents per lb.</u>	<u>U.S. cents per lb.</u>	<u>U.S. cents per lb.</u>	<u>U.S. cents per lb.</u>
20/30.....	--	29.2	¹ 48.5	² 27.0
30/40.....	45.0	² 25.2	¹ 38.2	21.2
40/50.....	¹ 39.3	24.2	32.1	19.4
50/60.....	39.1	23.1	28.9	17.9
60/70.....	37.2	¹ 22.3	26.2	16.8
70/80.....	33.4	³ 21.2	23.2	15.8
80/90.....	28.3	--	20.0	¹ 14.3
90/100.....	24.2	--	¹ 16.6	¹ 13.5

¹ 3 years only. ² 2 years only. ³ 1 year only.

Source: Consensus of French processors for Lot-et-Garonne; Pacific Fruit News for California.

Marketing regulations

The marketing of prunes by the French prune industry is significantly influenced by (a) Government standards on quality, wholesomeness, grading, labeling, and packaging and by (b) the so-called Inter-trade Agreement, an instrument resembling, in some respects, California state marketing orders.

The Inter-trade Agreement ("accord interprofessionnel") first came into being July 1, 1963. It is based on much-publicized Article 32 of the Agricultural Orientation Law of August 5, 1960 which authorizes the Minister of Agriculture to establish various types of contracts for a specific commodity, in accord with the representatives of that "trade," i.e. the growers and packers of that commodity. The agreement on dried prunes sets up a contractual system under which an agreed-upon "reasonable" price is paid the growers for the dried prunes they deliver in a particular season. The Agreement has been renewed for the 1964, 1965, and 1966 crops. It is carried out by the Prune Inter-trade Board (Bureau Interprofessionnel du Pruneau, or B.I.P.)

Before the beginning of the marketing season discussions are held within the Prune Inter-trade Board as to the price that will be paid the growers. The price is determined before the season begins. The Board (or Bureau) is in charge of inter-trade relations and market regulation. It is composed of 5 growers, 5 handlers and 1 importer.

A parafiscal tax has been established for prunes sold in France--domestic and imported--and must be paid by growers, processors, and importers. It is based on a tax regulation published August 20, 1963 and slightly modified August 26, 1966. The rates of the tax are determined every year and included in the Agreement. The tax proceeds¹² are used to pay the expenses of the Agreement including "...organization of prune production and marketing, improvement of quality, inspection of processed goods, expansion of both domestic consumption and export outlets for prunes, and, when the need arises, offsetting export losses, and covering expenses involved in issuing of warrants and storage."

Improvement of technology is considered as among these purposes, and the Technical Agricultural Food Processing Center (Centre Technique des Conserves de Produits Agricoles) is entrusted with this function and financed from the tax proceeds.

Financing of publicity campaigns has been the main means of encouraging the expansion of domestic sales and exports. Resort to subsidization of exports is also possible. In 1964, a small sum--\$9,700--was expended as an export subsidy on about 200 tons of prunes, equivalent to nearly \$49 per ton. In 1965-66, \$41,000 were devoted to advertising in France, \$48,000 to fostering exports, and \$48,000 to research. In the 1966-67 season, with an unusually large crop providing both more tax receipts and greater need for markets, there were provided from the tax proceeds \$196,000 for promotion of domestic sales, \$184,000 for export promotion, \$49,000 for improvement of technology--that is, research--and \$306,000 for market regulation.

As part of its market regulation, France has continued to impose a quota on imports of U.S. processed prunes--amounting to 1,000 metric tons annually. Importation of natural-condition prunes, however, has not been limited.

Under the Inter-trade Agreement, producer-processor handlers are required to notify appropriate authorities, at the beginning of each marketing season, on the volume of their production in the season just ended. All handlers (producer-processors, processors, dealers, and cooperatives) have to report quarterly on their purchases and stocks. This should greatly improve the accuracy of supply and disposition information.

At the grower's level, to improve commodity marketing conditions, the French Government has been fostering so-called "groupements de producteurs." Such producer groupings are to accept Ministry of Agriculture rules which may regulate production and marketing. By 1965, various prune grower groups, such as syndicates and cooperatives, were becoming officially sanctioned as groupements de producteurs. In 1965, when these producer groupings expanded so as to represent 35 percent of France's dried prune production, the Prune Agricultural Economic Committee

¹² Received by the Prune Inter-Trade Board.

(Comite Economique Agricole des Pruneau d'Agen) was created. Two-thirds of the Committee's member are from the producer groupings and one-third from other producer syndicates. This composition entitles the Committee to speak in the name of all growers and to represent them in the Prune Inter-trade Board. The Committee is mostly concerned with production problems. It attempts to survey orchards and to improve growing practices. In 1966, by surveying 20 percent of the orchards, it found it possible to estimate production more accurately than was feasible in previous years. Equipment used in drying and processing facilities is also under the Committee's control.

During the 1966-67 season, the Committee's activities were financed half by fees paid by members of the group and half by government grants. However, this government help is scheduled to last for only three years. The organization of prune growers into producer groupings and then into the Committee is a pioneer development that is being watched carefully by other French farmers and the Ministry of Agriculture. The latter plans to extend this type of organization to other agricultural products; but the authorities are anxious to see how it operates for a commodity like prunes which already has some built-in advantages such as a small concentrated producing area, relatively few growers, and a well-defined market.

Handlers are represented on the Prune Inter-trade Board by the Chambre Syndicale National de la Prune d'Ente. The Chambre is an association of handlers (processors or packers) who specialize in the Agen dried prune. Its members are not only in the producing area but also in Paris, Marseilles, and Bordeaux. They hold 5/11 of the Board's capital and hold the 5 handler seats of the 11 seats on the Board. Members of the Chambre are believed to handle 80-85 percent of the prunes processed in France.

The Chambre, being a syndicate, is prohibited by French law from engaging in commercial activity. Therefore, the Comptoir d'Achat (Purchasing Office), which is completely controlled by the Chambre, enters into commercial transactions on behalf of the Chambre. Its membership, however, is restricted to those Chambre members active in the prune-producing area. The Comptoir is the largest importer of California prunes.

Standards.--New standards for prunes sold within France--domestic or imported--were published in a decree by the French Government in 1966. It sets limits on defects, prohibits chemical residues not previously authorized, and limits moisture content. It establishes an official size-of-fruit classification, ranging from "giant"--40 fruits or less per 500 grams (1.1 pounds)--down to "very small"--more than 121 fruits per 500 grams. It also sets specifications on materials used in containers, permits only certain sizes of retail containers, and lays down rules on labeling of containers and the uniformity of prunes in a package or bulk lot. Specially prepared prunes, such as canned, prunes in brandy, stuffed prunes, or prunes designated for use in juice or jelly, are exempted from some of the provisions. The decree is to be enforced jointly by the Minister of Agriculture and the Minister of Economy and Finance.

A translation of this decree, dated April 12, 1966 and published May 4, 1966 in the Journal Officiel, reads as follows:

"Article 1 - Prunes of French or foreign origin, withheld or shipped for sale, put on sale or sold, must comply with the provisions of the present decision.

Article 2 - The prunes must be whole, fleshy, have a wrinkled but neither split nor cracked skin; be clean, free of dirt or chemical residues; wholesome, free of any lesions caused by parasites, free of fermentation, mold and of any change of whatever nature; free of odor or foreign flavor.

In one single package, or for the same lot, in the case of sale in bulk, a maximum amount of 12 percent of fruits not in compliance with the general provisions of the present article is tolerated, however, without the percentage of fruits damaged by parasites, or spoiled by fermentation or mold or any other serious changes reaching 5 percent.

Article 3 - In accordance with the provisions of Article 6 of the decision of July 20, 1956, it is prohibited to stock for sale, put up for sale or sell, prunes of whatever origin having been subject, either before or after the harvest, to chemical treatments or to a chemical incidence not expressly authorized.

Article 4 - Except if they have been subject to special preparation as described in Article 5, the dried fruits as mentioned in Article 1 showing a moisture content higher than 35 percent cannot be put up for sale or sold as prunes.

With regard to prunes whose water content is between 26 and 29 percent inclusive, the term "prune" (pruneau) must be supplemented with the notation "maximum moisture 29" (humidite maximum 29 p. 100).

With regard to prunes whose water content is higher than 29 percent without exceeding, however, 35 percent, the term "prune" (pruneau) must be followed by the qualificative "half dried" (demi-sec) "maximum moisture 35 percent" (humidite maximum 35 p. 100).

Article 5 - Fruits having been subject to special preparation other than a mere rehydration such as: "canned," "canned, with sugar added," "in brandy," etc. are not subject to the provisions of the preceding article. For such products mention should be made of the preparation in the sales designation and on the labels: "canned prunes" (pruneaux au jus), "canned prunes with sugar added" (pruneaux au sirop), "prunes in brandy" (pruneaux a l'eau-de-vie), "stuffed prunes (pruneaux fourres), etc.

Article 6 - Whether they be presented in bulk or in packages, the prunes must have been subject to size standards. This is as follows:

Either by the maximum number and the minimum number of fruits contained in a half kilo; the difference between these two figures cannot be higher than 11;

Or by one of the following designations, each corresponding to a maximum number of fruits to the half kilo (500 grams):

Giant (Geants)	- no more than 40 fruits
Very Large (Tres gros)	- no more than 50 fruits
Large (Gros)	- no more than 66 fruits
Average (Moyens)	- no more than 88 fruits
Small (Petits)	- no more than 121 fruits
Very Small (Tres petits)	- more than 121 fruits

Article 7 - The packages containing prunes must be clean and made of materials which cannot give a foreign smell or flavor to the fruit.

Paper or other material being in contact with the fruit must be brand new and fulfill the regulation provisions concerning the packing of food items.

Within a maximum delay of 5 years, starting with the publication of the present article and exempting prunes packed in metal boxes, the prunes contained in packages of a net weight equal to 1 kilogram at the most, shall be presented only according to the following net weights: 0.250 kg., 0.500 kg., or 1 kg.

Article 8 - All packaging containing prunes prepared for sale must bear, as of the date it was put on sale, on its front side, by means of a direct inscription or by means of a label, the following indications in a clear and legible style for the buyer:

a) Either the name and address of the goods packer, or that of the vendor together with the symbol identification of the goods packer given by the French food and drug administration;

b) The designation of the product (prunes)-(pruneaux) followed by the name of the variety or, if this is not possible, the commercial designation normally used by the trade to designate the origin of the various fruit types;

c) Mention of the moisture content, possibly with the mention "demi-secs" according to the restrictive clause fixed by the provisions of the above mentioned Article 4;

d) Mention of fruit size, as noted in Article 6;

e) Mention of net weight in metric system units, as noted in the above mentioned Article 7;

f) Mention of country of origin for prunes of a foreign source.

The invoices prepared prior to the retail stage, must bear the indications noted in paragraphs b, c, d, e, and f above.

WASHINGTON, D. C. 20250

Official Business

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The items to be mentioned, noted in paragraphs b to f, must be shown on the front side of the packages in clear typographic letters, for the buyer.

When prunes are sold in bulk, the indications noted in the above mentioned paragraphs b, c, d, and f must be shown very clearly either on the label, or on a placard placed near the goods.

Article 9 - Packages containing imported prunes must bear, in French, all the required indications specified in paragraphs b to f of the above Article 8.

Article 10 - Prunes contained in a same package or forming a lot for sale in bulk, must have standardized appearance and characteristics; a mixture of fruits of various varieties and origin is particularly prohibited.

Article 11 - Notwithstanding the application of the provisions noted in Article 3 and in the first and second paragraphs of Article 7 above mentioned, and subject to, at the time of transportation of such lots, all the justifications being presented to the control agents, the following are not required to meet the other provisions of the present decision:

- a) The prune lots sent directly to commercial repacking companies undertaking the packaging and assuming the responsibility for the goods put up for sale afterwards;
- b) The prune lots for transformation (preparation of juice, jelly, etc.).

Article 12 - The provisions of Article 18 of the July 20, 1956 decision, amended by the June 24, 1961 decision, concerning prunes, are rescinded with regard to these products.

Article 13 - The Director General for Production and Marketing at the Ministry of Agriculture, the Director General of the Customs Office, and the Director General for Foreign Trade and Prices at the Ministry of Economy and Finance are entrusted, each with what concerns him, in the execution of the present decision, which shall be published in the Journal Officiel of the French Republic.





